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Sorgo Department.

The Rural World is the only journal in the United States having a special department devoted to syrup and sugar making from sorgo.

President I. A. Hedges' Circular Letter to Cane Growers.

GENTLEMEN: Inasmuch as arrangements are about complete for Prof. M. A. Scoville's tour among the cane fields and sugar works, in search of scientific and practical facts, I will request those in the business to write me at once: 1st. The extent of their crop and works, whether steam or fire. 2d. Post-office address and route by which to reach them.

Inasmuch as this important work is undertaken by Prof. Scoville and myself without funds from outside, we must ask all the facilities the planters can afford us in carrying it out. We confidently hope the results may be worthy of our efforts, and a compensation to those for whom they are made. As the professor will take with him his polariscope and appliances, it will afford many an opportunity of witnessing the sugar tests upon cane juices and sugars, and thus understand this interesting method of determining the per cent. of cane sugar in any given quantity of saccharine solution. His first move will be to Texas, but the particular points and dates cannot be now stated. Our friends have not kept me posted about their progress, hence I cannot direct at this time. It is desirable that these tests shall be made upon the products of representative sections of country, varying as much as possible, and inasmuch as only some fifteen or twenty days can be spared in the south, but short stops and not too many of them are admissible. He will endeavor to drop in upon works in several of our western and northern States, and may return south late during the working of southern cane. I hope to be able to accompany him in some of his peregrinations.

I. A. HEDGES.
St. Louis, Mo., August 8.

Letter from Prof. F. L. Stewart.

COL. COLMAN: I notice to-day for the first time (in your paper of the 14th ult.) an attack made upon me and the "Stewart process," in what purports to be a report of a speech made by you at a cane growers' meeting held in Minnesota last winter.

I do not take the time to inquire why this version of the speech differs so much from the one first published which required no answer, or why it should now appear at this late day, or what was the motive which prompted it. I did not attend the meeting referred to, for the reason that it was understood to have been called in the interest of a few men who had only a temporary object to serve—and I did not think it worth while to have even a representative of the process there. It was only at the last moment that I learned that my friend, Mr. Wilcox, expected to be present, and at his request I sent him a letter embracing a statement of some recently verified facts, many of which he had himself proved to be so, which he read at the meeting. Mr. Wilcox's samples spoke for themselves.

If I had been present I would have replied to your remarks in such a way as to unearth the bottom facts. But I was not there, and your statements have just now come to light—if this is correct report of them—and I am surprised that you did not publish the letter against which your remarks were directed, as was done in former reports of the meeting. I do not accuse you of wilful misrepresentation, but it is due to your readers to show them where the truth is. It can be neither to your interest or mine to keep it longer concealed. I ask you therefore to publish the letter read by Mr. Wilcox, and I will agree to follow it in the next number of your paper with a short article, giving the precise data upon which those statements rest, and you can make your own comments upon them, and your readers can judge for themselves. This you will readily see fair play now demands.

F. L. STEWART.
Murrayville, Pa., July 18.

REMARKS.—We give place to the above letter, though we see no good that can be accomplished by its publication. We do know what version Mr. S. saw of our remarks. Our speech was entirely impromptu, called out by the letter of Mr. S. It was taken down in shorthand, at the time, by the stenographer of the commissioner of agriculture, and published in the order of

the proceedings as we have found space to spare in our paper. If we had written a reply, we might have used a little more polished discourse, but we spoke as we thought and felt, with no personal malice, having nothing but the good of the sorgo growers at heart. It is the first time we have heard that the Minnesota Amber Cane Growers' Association was organized or "called in the interest of a few men who had only a temporary object to serve," and we regret the statement as a libel on the members of the Minnesota Cane Growers' Association. If there ever was a public spirited body of gentlemen, who had the good of the cause at heart which called them together, it was the Minnesota Amber Cane Growers' Association. Their proceedings were conducted in the most liberal and unselfish manner. Each member did what he could to enlighten the other members. There were no secrets for sale, there was no royalty exacted on any process, there was nothing hid under the bushel, but each member vied with the others in advancing a great State and national industry, without fee or reward. One gentleman, Mr. Porter, had five barrels of beautiful sugar on exhibition which he had made without any patent process, and he cheerfully told every one who asked him just how he made it. Other samples of sugar, and of most beautiful syrup, were exhibited, and every man told his process of manufacture.

If you have any patent process or compound, we do not complain that you charge for it. You have a perfect right to do it. It gives such results as you claim, it will pay sorgo growers to use it; but if others make as much and as good sugar without it, they will be slow to quit their process for yours. If you will read our remarks, you will see that we advised a careful trial of such processes as promised good results, whether a royalty was charged or not. We wish that your process would prove all that you claim for it. It seems to us that you ought to be able to convince some men of means that you can do what you claim you can do. If you can, they will readily embark into buying syrup from the farmers and making sugar from it, for they can more than double their money on every gallon they purchase. We know of no money making operation equal to it, and we hope to see it put into practice on a large scale this season.

We have never seen the letter, either in writing or print, that you sent to the Minnesota Cane Growers' meeting. We only heard a part of it read, but we heard enough to base the quite lengthy remarks we made at the conclusion of its reading. If we had the letter, we should have no especial objection to publishing it. If you have kept the run of our publication of the proceedings, you will see that we have only published the discussions as furnished by the stenographer—not the letters, reports or essays that were read before the meeting.

L. A. HEDGES: We started our sorgo works yesterday on Amber cane. It is yielding fine. Tests by saccharometer, 10 degrees B. The Orange is not ripe, but tests 7 degrees B., as does the Liberator which is yet in bloom. We have a good stand of Amber and Liberator, which we obtained by planting seed two years old of our own raising. Our Orange is about half stand from last year's seed. We planted some seeds received from Washington City, which did not come up at all. We think the greater part of the cane seed is injured in curing by heating. The sorgo crop in this section is light, not over half crop.

DRUMMOND BRO.
Warrensburg, Mo., August 6.

The Havana Weekly Report of the 14th of May, says: Grinding may now be virtually considered at an end, as the few estates still working are likely to extinguish their fires in the course of the next fortnight; the continuance of the good weather all over the island has allowed planters to continue grinding without interruption, and thereby considerably reducing the deficiency calculated at the commencement; some parties now think that the decrease will hardly reach 10 per cent., as compared with last year; the total production of about 600,000 tons these favorable results must be accounted for by the abundant yield of the cane, despite its smallness and the insignificant losses occasioned by fires on the estates, not many cases of this sort having been reported throughout the year.

Sorgo Sugar.

Dr. Peter Collier, of Washington recently made some interesting remarks concerning the valuable process of extracting sugar from sorgo. He said:

During the past year there have been examinations made of 38 varieties of sorgo grown in, and received from, 14 different States, and from 9 varieties of Indian corn. The results from analyses made, 1,318 in all, of the sorgos, showed them to yield on an average 1,662 pounds of available sugar. From four of these varieties the sugar was extracted in quantity and at a rate of fully 2,000 pounds per acre. As to the corn stalks, the results were most satisfactory, but the experiments were not so numerous as with sorgo. An average of 26 analyses of the 9 varieties examined showed them to contain in their juice an amount of sugar greater in quantity than the average of the best 30 specimens of 60 specimens of sugar-beets grown in different parts of the country. After a large crop of ripe corn had been gathered, the stalks yielded at the rate of over 900 pounds of sugar to the acre, and there appears no reason to doubt that this result could be obtained upon a large scale. In view of these results I feel justified in saying that there appears no reason to justify us in importing sugar which would not justify our importation of corn and wheat. In view also of the gradual but decided improvement of our western lands, which a carefully compiled result of the acreage yield for the past 18 years establishes, it seems most wise that we turn our earnest attention to this question of sugar production. You are also aware that the ash of corn is composed of matter derived from the earth, and unfortunately consists of those two substances, phosphoric acid and potash. Indeed, so great is our corn crop—occupying 37 per cent. of our cultivated lands in the United States as it does—that at the prices we pay for these two substances the amount present in our corn crop aggregates the enormous sum of over \$100,000,000, while the entire value of our corn crop is about \$500,000,000, so that when the time comes, as come it may, that to keep up the fertility of our western lands we must return what we take from the ground, it will require, as will be seen a sum equal to 20 per cent. of the entire value of the crop.

Analyses of Sorgo.

We have received the special report of the analytical and other work done on sorgo and cornstalks by the chemical division of the Agricultural Department, made to Commissioner Le Duc by Peter Collier, chemist. It appears to be a very elaborate and thorough performance, embracing 3,901 analyses of 38 varieties of sorgo, 11 of cornstalks, and a few outside samples of sugar and syrup, made chiefly during the last half of the past year. The principal object of this work was to determine the period at which the juice of each particular variety of sorgo or corn contained the most crystallizable sugar which could be profitably separated. These analyses were begun in an early stage of the plants, and were repeated at intervals till late in autumn, thus affording a life history of each variety, which will do more than any one thing to show the practicability of sugar production from these plants, aside from the actual separation of the sugar itself in manufacture. These results are distinctly and strikingly exhibited in 14 engraved and colored charts, showing from July to November the amount of sucrose contained in the several varieties, and at the same time the quantity of glucose during the same period. In the Early Amber the full amount of sucrose was reached by the first of August, and it continued without great variation till the middle of October; while the glucose was greatest early in July, and diminished rapidly till the first of August and slightly afterward. The White Liberator reached its full amount of sucrose by the middle of August and continued till November. Of the many late varieties, some reached one-half or two-thirds of their full amount by the middle of August, but the full development did not take place till the middle of October.

It is evident from these analyses that as far north as Washington the great advantage gained in the use of the Early Amber is in the long period during which the manufacture may be continued, amounting to over two months while further north the difference would be still greater between this and the later varieties. The per cent. of sugar afforded from each, appears not to have greatly varied, being some 12 or 15 per cent. of the juice. The superior value of any particular sort, therefore, will depend more immediately on the weight of the canes which can be raised on the acre. The later varieties may be best adapted to the south.

The report draws a comparison between making sugar from beets and from the Early Amber cane, and states that although two-fifths of the sugar now used is made from beets, more than twenty years of careful scientific work was required to bring it to its present

successful manufacture, and it is believed that the chances for success from sorgo are better than from sugar beets, although all practical questions connected with it may not be immediately solved.

The analyses of cornstalks show a greater variation in sucrose than in sorgo, and from about one-half to two-thirds the quantity, and although there is some uncertainty as to the manufacture of sugar from cornstalks proving profitable, the opinion is expressed that the outlook appears hopeful.—Country Gentleman.

MINNESOTA AMBER CANE GROWERS' ASSOCIATION.

[Reported for the Commissioner of Agriculture, by his stenographer, Mr. LeDow, and furnished the RURAL WORLD at the request of the Minnesota Amber Cane Growers' Association.]

Mr. Elliott: Mr. President, I offer the following. Resolved, that this convention recommend to all persons having small or large mills, to require that all cane brought to their mills shall be stripped.

The President: I want to suggest that there are times perhaps where men have large mills, when it gets very late in the season and there is no time to do that. Now with me last season I worked 18 or 20 acres with leaves on.

Mr. McDowell: Frost bitten?

The President: No, sir. It had been out in the fields and piled. The leaves were perfectly dry.

Mr. McDowell: That is what I mean. I don't think that dried leaves either from snow or frost make much difference.

The President: I have always favored stripping, and if I could get my cane stripped for \$1.25 I would never grind any leaves under any condition.

Mr. Day: I want to say one thing in regard to stripping. Some say it costs \$3, and some that it costs \$1. I will say that I never could find any one who could do one half what my son can. A man can at first strip half an acre a day, but when he becomes used to it he can easily strip three times as much.

A Member: What is the process?

Mr. Day: I generally use a stick.

A Member: A single stick?

Mr. Day: A single stick. I have tried both kinds.

Mr. Prindle: Have any of the members ever thought that in regard to this stripping there might be something said as to the manner in which the cane is planted? I believe this to be a question of importance. I think Mr. Powers sowed in drills. Of course that can't be stripped for \$1.25. I don't think that cane planted 3 feet apart can be stripped for that, but if planted 3½ to 4 feet each way it is possible it can be done for that price. When the report of our proceedings comes out I want those who read it to know what we are talking about.

Mr. Lay: This matter of stripping seems to have been pretty well disposed of, and there is another subject that I would like to call up, and one that I think very important. It seems to me, Mr. President, that no worker of cane juice should be jealous of any process or method whereby he can make his article better than his neighbor, for the express purpose of outstripping that neighbor. If my neighbor makes a good article, it doesn't hurt it if I make an equally good article, and if he succeeds better than I do, and does it because he has a process which I have not, he should acquiesce in that process that I too may succeed. Now in this matter of defection, we find that some use one thing and some another, and I am not able to say which is the best process. There are those present who have had experience in it and know how to handle it, and what proportion of time is necessary, the proper time to use it in order to obtain the best results. We want more light thrown upon these things and I would like to know what to do to make the best article of syrup.

Mr. Merrill: Before I came here this morning, I drew up this list of questions because I was not satisfied with what I heard yesterday. I was well pleased but there seemed to be a lack of a desire to go to the bottom. "What are the best methods of manufacturing cane into syrup or sugar?" Let gentlemen tell us their experience, especially where they have failed, so that we may not fall into the same mistakes. We have had the experience of many, but what has been said is much like playing Hamlet, and leaving Hamlet out. [Laughter.]

Col. Colman: I want to say one word. I have attended the meetings of a great many organizations and I say in justice to the Amber cane growers of this whole country, that I do believe that if there is a frank, candid, open class of men who are willing to tell all they know, and who have no secrets, it is the Amber cane growers of this country. I say that they want Hamlet brought out, dressed in all his paraphernalia, and they want him to play his part fully, openly and boldly. I know a great many persons, perhaps not of this meeting, but all over the country, who think that those who make a good quality of syrup, and who happen to make sugar, have some secret which they will not expose. Gentlemen, I am satisfied this is not the case. I am satisfied that every gentleman here, I don't care if he has made the best quality of syrup and sugar on exhibition, is willing to tell you precisely how he made it. Now in reference to defection, the President told you, in his address, exactly how he defeated. Just how much of the milk of lime he applied to the hundred gallons. Any other gentleman present who has made syrup will tell you how he defeated. No one in this business has any secrets with the exception of Prof. Stewart, who, as you know has a secret for sale. If gentlemen want further information than

has been elicited in these discussions, let them ask any of the Amber cane growers here or elsewhere and they will tell them their experience frankly. Here is our friend Russell, who has had considerable experience, and yet we find him here telling us precisely how he made his syrup. It is possible that these refiners will not tell everything they know, and a good many of us would not be able to comprehend it if they did, because it takes a long time to become a skillful refiner, and it not only requires knowledge and science but experience; but we can all make syrup. There is a chance for the "wiggler" to make it, and some of them will be big fish yet. Before they have gone much further some will grow to be great whales. [Laughter.] There is a chance for us all, for if we haven't the money our friends will join us. I think that the greatest success, the greatest profits, are to be obtained by the combination of capital and combination of men who will erect large factories. Gentlemen, there is some little prejudice against your refinery at Faribault. Let me say to you that you will have business for a score of refineries in the State of Minnesota in less than 10 years. More than that you are going to have them all over the country, and they will yet be as common as your flouring mills, and your commodity will have just as certain a sale as your wheat or flour. There will be a demand for it, not only in this country, but in the markets abroad, just as great as there is for your wheat to-day. I tell you the beet which supplies so much of the sugar for the old world stands no possible comparison with the Amber cane sugar, because it cannot be produced so cheaply.

We can say, and truthfully, too, that the raw product of our syrup costs as nothing. The seed upon your cane pays handsomely for all the cultivation, and if properly harvested and saved and fed to your stock, is as profitable as corn. Therefore we may say the cane can be laid at our mills for nothing. Now how is it with the beet. Why, gentlemen, it is almost impossible for the beet factories in our eastern States to get the farmers to produce beets. There is so much labor connected with it, in carefully preparing rich ground, having favorable seasons so far as rain is concerned, finger weeding, finger thinning, hoeing them all summer, and above all the exhausting effect it has upon the soil. Then it requires \$200,000 at least or more to establish a good beet sugar manufactory, and I tell you sugar from beets can never compare successfully with the Amber cane, and in my humble judgment we can put the Amber sugar in the old world so cheap, that it will forever kill the beet industry of those countries. Your sugarcane is certain to go in to the old country before we are all in our graves, because it is a competitor without a rival in the world. It is even different from the cane sugar of the south. That has no seed heads, and it is produced solely for sugar purposes, while with your Amber cane your seed alone pays the entire cost of your crop.

The President: In this matter of defection, I prepared a paper last season, fully describing it, which was published in the Pioneer Press. Mr. Miller and myself sent out nearly a thousand copies. When we didn't send them out we sent a notice stating where they could be had, I really felt ashamed to have so long a paper, but I did my best to make it perfect. I kept nothing back and I may be permitted to say that I have done everything in my power to promote this industry.

Mr. Merrill: I would like to make myself understood. What I have said did not call for such defense by Governor Colman, of the cane growers. I am very thankful for what I heard yesterday, but I want to go further and ask what are the best methods of manufacture. I want to ask also whether any gentleman present uses anything except lime for defection. I believe some do, though we hear nothing about it. I have taken the liberty to taste some of your syrups, and I must say there is quite a difference in the quality, at least to my plain taste. I came here paying my own expenses and want to get information that will enable to excel if it is possible, and when I go home I want to be able to report.

Mr. Wood: I have never used lime in defection. I have used something of my own, and if the gentleman wishes to know what it is I can tell him. I have succeeded in making a very good article of syrup. Perhaps I have in a measure destroyed all the sugar contained in the syrup by the use, as a gentleman here tells me, of one of the articles used, but I feel confident that I have not, for I have had crystals of sugar there. Now then I have used tannic acid and sal soda, as a defecator, and my syrups have always commanded a good price where I have lived, in Illinois and Wisconsin. I never have used any lime whatever.

Col. Colman: In what quantities did you use these, and at what period?

Mr. Wood: I put it into the juice in a certain quantity as soon as it is put over the fire. That is for the purpose of cleansing it. When I have skimmed it sufficiently in the first pan, so that it boils white, I consider it fairly cleansed from impurities, and it then goes into the second pan and another batch takes its place and is treated in the same way. It is finished off in a third pan. That has been my mode of defection for several years.

Col. Colman: I believe you did not state the quantity.

Mr. Wood: Well about one heaping teaspoonful of tannic acid, and two teaspoonfuls of sal soda to about 15 or 18 gallons of juice.

Question: You put it in no place except the first pan?

Mr. Wood: No, sir. Of course there has to be some judgment used in this as well as in anything else. You should use sometimes a little more and sometimes a little less, as the circumstances may require. After the

action takes place so that it is right, take it off as quickly as possible before it boils away, unless you want to commence skimming. If it is properly done the foam will be as white as milk.

Col. Colman: Does it neutralize the acid in the syrup?

Mr. Wood: It does in a great measure but not fully.

Mr. Wilcox: I wish to say one thing with regard to Mr. Wood's process of treating the juice. While I do not wish to attack the merits or demerits of Mr. Wood's process I would simply say that I have taken his syrup, or syrup treated by his process, and treated it with lime and the scum that is to be removed after the lime is added will all most equal the scum that is removed by treating the fresh juice. I don't make this statement to cast discredit upon the process, but simply to bring the matter before the convention, so that we may understand it, and decide if possible upon the best method of treatment.

Mr. Wood: All that I have to say in reference to that is that I am not sure that Mr. Wilcox has had a fair test. My help last year thought that they knew of a better way than mine by using an article better than mine, consequently they used it and in considerable quantity, and I did not like their product nearly as well as I do mine, and I don't think their process cleansed the juice nearly as well as mine does. I am not sure therefore whether Mr. Wilcox has worked with syrup made with my process or with that of others or whether there is a mixture.

Col. Colman: Will the gentleman tell us what his men used?

Mr. Wood: (After a pause.) I cannot recall it at this moment, but perhaps I shall think of it after awhile. One thing, however, before I close, and that is my syrup is here on exhibition and will speak for itself.

Captain Blakeley: One thing more, Mr. President. The question of the quantity of seed and its value has been alluded to by Governor Colman, and is one upon which we should have an expression by the convention. How much should be raised to the acre, and what is it good for? I can say for one gentleman, who raised some of this cane, that he is making his buckwheat cakes out of the seed. [Laughter.]

Mr. Russell: I will state that one of my neighbors threshed out the seed he raised on 7 acres of cane, he obtained 25 bu. of seed per acre, weighing 60 pounds to the bushel. He fed that seed to his milk cows, and he finds that the quantity of the milk is greater and that the quality is richer, and he is now feeding ½ corn, ½ caneseed and ½ oats.

[TO BE CONTINUED.]

Agricultural.

Varieties of Wheat.

COL. COLMAN: Will Bermuda grass grow well on bottom lands, where heavy timber is, for pasture, in Illinois? The Heckman wheat has been a failure in this vicinity (Harrisonville, Ill.). Will your readers give their experience with varieties of wheat? How have the different varieties yielded the present season? A little discussion on varieties of wheat in the RURAL WORLD at this time, would be highly appreciated by P. D.

REMARKS.—We do not think Bermuda grass would thrive in Illinois. We second your motion for a discussion of varieties of wheat. There are thousands of wheat raisers who are readers of the RURAL WORLD, and we would be glad to hear from them on that subject.

Wheat.

COL. COLMAN: Seeing so few crop notes this season in the RURAL, I thought I would drop you a few lines. Wheat did not do so well as last year, few fields running up to twenty bushels per acre. I hear of one field of Red Michigan wheat averaging thirty-two bushels per acre, and some only five bushels. My Fultz and Clawson made about nineteen bushels per acre. It seemed like the blight or something injured wheat, as it got dead ripe in two days time. The Clawson does not do so well any more, as the grain is not well filled up, and brings ten cents less a bushel. Besides it is easily injured by rain and wants to be cut as soon as ripe or before, as the heads will turn down so you can hardly do anything with it. Have any of the RURAL readers tried seed wheat from the north? If so, please let us know of the result and how to get it? We are having a long, dry spell. Corn and pastures are fast drying up. Corn, if it does not rain soon, will not make one-third of a crop. Oats is very good. Chinch bugs more numerous than I ever saw them. Will they injure the young wheat this fall? This is a fine time to burn old stumps out in fields. I would like to hear of some one that has tried dynamite to burn them out, and how to procure it. It is bad business to drive around stumps in heavy wheat with reaper and self-binder, and hands too scarce and high to pay to cut around with cradles. Let us hear more about the different kinds of wheat. The Fultz is gaining favor here every year. Success to the RURAL.

J. RUFF.
Chamois, Osage county, Mo.

Horticultural.

Edited by George Husmann, Professor of Pomology and Forestry, Columbia, Mo. All communications for this department should be addressed to him as above.

Missouri Valley Horticultural Society.

COL. COLMAN: Society met at the residence of Major Z. S. Ragan, Independence, Mo. In spite of the hot weather and dust a goodly number were in attendance, and all enjoyed the good time. After an unusually good dinner and entertainment the society was called to order by the president, J. C. Evans.

SMALL FRUIT COMMITTEE REPORT.

Bennett says he has marketed the best crop of Black Caps he has had for ten years. The red were also very fine, the Turner being in bearing six weeks. Thinks the Miami is the best Black Cap and would not give it up for the Hoppins. It bears well and lasts well. Summer prunes the Turner at three feet, and then in the spring about the same. Evans objects to this kind of work. Would not summer prune at all, and would cut down in the spring to one or two feet; they yield better berries and are easier gathered.

Bennett reports his blackberries as all rusted out. Others the same.

Ragan says he saw a fine crop of Snyder at Cadwallader's at Louisburg, Kan., and they did look fine. Chase also is reported to have had a good crop of Snyder. They are no doubt the most hardy berry we have.

ORCHARDS.

Gano reports a fair crop of winter apples on his place. Some varieties are full enough.

Bennett says Smith's Cider and Willow are full enough with him.

Cravens says his Winesaps are as full as last year.

Goodman reports the Willow Twig the fullest of any with him.

VINEYARDS.

are in good condition; very full, and not rot to speak of.

Evans says that where he left the old wood to bear, there he has had the rot, but none on the young bearing vines.

Bennett asks if ashes will keep the borer out of the peach?

Evans says yes, and will often cure sick trees. He revived a peach tree that was losing its leaves; by putting two gallons of boiling hot lye at the root. It put out new leaves and is now healthy looking.

VEGETABLES.

Ray says that late potatoes will be a failure, if we do not have rain soon.

Cravens says Ruckle has 6,000 cabbages, and that the worms are destroying them all, in spite of lime and ashes dusted upon them. The small miller that hovers about them is the parent, and we must find some way of destroying it.

ORNAMENTALS.

Ragan reports the season as a very hard one on newly set trees, and they need attention. The hot weather has injured them, and in many cases killed them.

Best four varieties of grapes for a family, Evans names the following: Telegraph (very early and good), Concord, Delaware and Norton's. Exceptions were taken to the Telegraph, also to the Delaware. Some recommending the Elvira, others the Gothe, others the Catawba, others the Martha.

Premiums Awarded—Best plate of apples, Reinbeck; best hand bouquet, Goodman; best table bouquet, Goodman.

Society adjourned to meet at the residence of F. Holsinger on third Saturday of August. S. A. GOODMAN, Sec. July 16, 1881.

The Coleus.

EDITOR RURAL WORLD: During the past few years the attention of flower growers has been directed to the coleus as a bedding and house plant, and the demand has been so great that our florists have given this class of plants much care and thought, and have been very successful in obtaining many new and beautiful varieties. But a few years ago a bed of coleus was an uncommon sight, while to-day almost every lover of flowers has his yard or lawn ornamented with them in summer, and the window garden is made much more attractive by them in winter; for the coleuses of to-day are far handsomer than those cultivated only a few years ago. Two new styles of coleus have been introduced in the past few years—one the fringed, with deeply serrated leaves, and the tri-color, with foliage composed of several colors, beautifully blended. Of the former, Pictus and Multicolor were the first of this class introduced, and on a dry soil and in a sunny situation are truly beautiful. The tri-colors are much more delicate in appearance and may be had in great variety, though many of them closely resemble each other and are hardly worthy of distinction. I now have a choice collection of more than fifty choice named varieties, and were I asked to name one as the best, I hardly know which I would choose. Some of the more delicate and finer marked varieties do not hold their beauty so well when bedded out. Among the finest are Charles Darwin, veined and mottled pink, sulphur and olive green. Exquisite, brilliant violet carmine, centre shading to bronze, green margin. Fairy, yellow and green, blotched with crimson scarlet. Multicolor, distinct from all others; it is many colored, crimson-rose, with shade of red finely

blended. Pictus, marbled yellow maroon and crimson. Red Cloud, rich crimson, evenly marmarated with blackish brown and narrow green margin. Speciosa, green, with broad yellowish white central bar. Thomas Meehan, dark carmine shaded with brown, green margin—a new type, with oak leaf shaped foliage. Had I space in this letter, I would like to describe more of these beautiful new varieties.

Coleus are very easily rooted in sand, and grow very fast. I am preparing a lot of nice young plants, and if any of the readers of the Home Circle wish them, send me two letter stamps each for as many as you wish and I will send them safely by mail. Coleus are very sensitive to moisture, and like a dry atmosphere and rather dry soil. They make very satisfactory window plants when not watered too much, which invariably causes them to damp off and die. The Pictus and Multicolor varieties like the bright sun, but the most of the other varieties are much finer when grown in partial shade. They like a light, rich soil, well drained. A soil composed of equal parts of sand, leaf mold and well rotted manure has always given us the best results. Never water the plants until they really need it. In propagating the coleus from cuttings, be careful not to keep the sand too moist or the cuttings will damp off.

J. H. PEARSON.

Windsor Chief and Capt. Jack Strawberries.

EDITOR RURAL WORLD: The above two kinds did better with me this season than all others, yielding about half a crop. The balance of some five or six varieties did not produce one-fourth of a crop, and poorest of all were Shaker and Chas. Downing. Both of these blighted very badly, and were scarcely worth picking. Windsor Chief stood it best of all, bore about two-thirds of a crop of very fine fruit, considering the extremely unfavorable season. Next best to the above named was Green Prolific, Capt. Jack and Seth Boyden.

And lastly, I will say a few words about the Sharpless—a variety about which so much has been said and written that did not prove to be true. It leaf blighted with me worse than any other kind. It is not productive, and what few berries it did bear, were the most shapeless looking things I ever saw—no two berries of like shape—a very great drawback to a market fruit, where shape, color and size are the principal requisites. It might occupy a little space in some rich gentleman's garden as a curiosity. For profit I found it entirely worthless; in fact, the hot sun has so completely used it up that nothing but a few dried up leaves show that it once existed.

H. SANDHERR.

Belleville, Ill., July, 1881.

A few Thoughts on American Grape Culture.

BY G. E. MEISSNER, BUSHBERG, MO.

GENTLEMEN: Your worthy Executive Committee requested me to contribute a short paper on grape culture. In a few moments I promised assent, and now I find myself in a predicament, as I doubt whether I can communicate much that may be interesting or of practical value to you. It is only the hope that I may find a lenient and indulgent audience that induces me not to renounce to the honor which your call has conferred upon me.

It occurred to me that a few thoughts on American grape culture and its prospects, as called forth by my observations and comparisons on a recent trip through the leading grape regions of Southern Europe, might have at least some little interest for you.

American grape culture, as a valuable branch of our national agricultural industry, though comparatively yet in its infancy, is nevertheless already of a certain and constantly growing importance, and especially of late years, different circumstances have combined in a favorable influence upon its further development.

The terrible destruction and havoc caused by the phylloxera, in a large portion of the vast vineyards of southern Europe has curtailed the supply of foreign wines, and their place is being filled to a large extent by our home grown product.

Moreover, the general prosperity in our own country has tended to increase the demand for the fruit in its raw state and for its manufactured products, and thus has made a profitable market possible for the good crops, with which most grape growers have been blessed during the past few years.

The reverses even, under which the young industry suffered so severely in many parts of the country during the years of '73 to '78, have not been without their indirect good results. Men who were not suited to the business of practical and professional grape growers, those who entered into it with more of extravagant hopes and expectations, than with sound common sense and business energy, have been compelled to withdraw, and they are replaced by others, who prosper, where the former failed, while those who with tact and energy held on through all the bad years, are now reaping a fair remuneration for their perseverance.

I said before that American grape culture was yet in its infancy, but I must add that the infant has cut its eye teeth, and is now in a healthy and satisfactory state of growth. To what it will really develop in the course of time no one can tell, but at least I can express my greatest confidence in its future, and can say that I look forward to the time when we shall see every rural home in the country adorned by beautiful grape vines, and every household bountifully supplied with this noble fruit, while American wines will become a staple in the markets of the world, ranking next to our other great products of agriculture—bread, meat and cotton.

I have seen a large portion of the great vineyards of France, Germany, Italy and Spain; but while I have seen there much to admire and to delight in, I have also seen much to dismay and to depress the spirit of a grape grower. In France alone over one and a half million acres of vineyards are already totally destroyed by the phylloxera, while the pest is spreading rapidly over Spain, Italy, Austria and Hungary, and its presence has been detected now in nearly every country of southern Europe. Its ravages will helplessly extend from year to year, so that the destruction of a large percentage of the vineyards now existing in Europe is only a question of time, and, if we may judge by the experience of France, of a not very distant time.

But the phylloxera is not the only evil with which the European grape grower has to contend, nor has he such very great advantages over us in all other respects.

We are always told that we have here the most variable climate in the world, and possibly there may be some truth in this saying. Our past terrible winter has certainly been abundant proof, that we are subject to extraordinary vicissitudes of climate.

While the winter of '80, '81 has no doubt worked immense damage to the fruit and nursery interests of our country, I doubt, however, whether it can compare to the damage which the winter of '79 wrought in a large portion of central Europe. It was appalled at the destruction of vines and fruit trees, yes, even forest trees, which I saw in many parts of France and Germany, notably in that region in and around the Alsace, Lorraine and Baden. Millions of vines had been killed outright by the intense cold of that winter, while the damage to fruit trees seemed even larger. It was a sad sight in passing through the beautiful country, which might be called the heart of the fruit region of Europe, to see the thousands upon thousands of fruit trees, apples, pears, plums and cherries, even stately walnut trees, without a vestige of green and entirely dead. In many places the percentage of loss must have been fully ninety per cent, and the few trees remaining presented a poor and sickly appearance.

I believe this explains in part the extraordinary demand which Europe has made upon us for American apples the past winter, and I am inclined to think that this demand will continue for many years to come, or until the destroyed orchards can be replaced by new bearing trees. You will please excuse this digression from the subject of grape culture, but I thought in mentioning these observations that it might interest you as nurserymen and fruit growers.

But it is not only the blighting results of that winter that I would speak of. When I learned further, how in the renowned Rheingau region, for instance, the grape crop had been an almost entire failure for the past three years—and from the reports so far this year will again give only a meagre return and this in a section entirely free from phylloxera; when I saw at what enormous cost to an American, incredible cost these vineyards have been established; what expenses their maintenance requires; when I saw how the fertilizers, and in some instances, the soil even had to be carried up on the back of the laborer, sometimes to the height of 300 to 400 feet—I was forced to make comparisons between the advantages offered to the grape grower in Europe and in America.

Need I say that these comparisons turned largely in favor of America, and do you wonder if I concluded that the European vineyardist is not to be envied so much by his American brother, even in those regions where the dreaded phylloxera has not yet put in its appearance? But, nevertheless, grape and wine growing is rightly considered one of the most valuable industries of the people of Europe, and for some countries, like France, for instance, it forms one of the most important sources of national revenue and wealth.

My confidence in American grape culture has been more strengthened by what I saw in Europe than by any other agency. It was there that my view was opened to the vast field lying before us here, awaiting only the intelligent and persevering vineyardist to bring forth remunerative fruit.

It may be well to consider a few points which seem essential to success, and which were called to mind in comparing the grape culture of Europe and America. In speaking of America, I should state that I refer more especially to that part of the United States lying east of the Rocky Mountains.

The phylloxera, this most dreaded scourge of the vitis vinifera of Europe, possesses comparatively no danger for us, and we may safely leave it out of further consideration.

The generally drier atmosphere of the European wine regions is probably more favorable to the grape, especially to the vinifera class, than the climate of many portions of our country. Our two most serious enemies, the grape rot and the grape mildew, are certainly more or less dependent upon atmospheric influence, and unfortunately in many parts of the country, these fungoid diseases prevail to an alarming extent. But I believe that this difficulty can, and with more knowledge on the subject will, be overcome by a judicious selection of varieties adapted to the locality. It is the greatest fallacy, and one against which we can not protest often enough, to suppose that we have or can expect to have any one or more varieties which will succeed everywhere throughout our immense territory.

Notwithstanding that over 1500 varieties are cultivated in Europe, the number of kinds especially adapted to the different localities is yet for each of them very limited, and we seldom find more than 3 to 4 varieties to form the main bulk of the vineyards of the different sections, each province, county or township even, having its own special favorites. This question of adaptability to soil and local climate is one of the greatest importance, and should be closely studied by the intelligent grape grower, if he would make his culture a success.

When we compare the quality of the fruit, especially for table use, we must admit that Europe still has the advantage over us, but we must not overlook that she has had thousands of years wherein to improve her varieties, whereas our real efforts in the matter extend over hardly half a century. Besides, taste is largely a matter of habit, and many an American will even now prefer some of the spicy, not to say foxy native varieties, to a delicate, but to him insipid Chasselas. But no doubt that we have yet large room for improvement in this respect, and we must guard against overestimating the quality of our grapes, for fear that we would cease our efforts in the right direction. It is idle talk and bombast to

say that we have grapes and wines which equal the finest production of the old world, that our white wines rank equal to Schloss Johannisberg or Chateau Yquem, or our red wines equal to Chateau Margaux or Chateau Lafite. The persons who tell you this probably never tasted a genuine drop of those really grand and choice old brands, and they are either blinded by their enthusiasm or they do not know what they are talking about, and overshoot their mark. We must keep from vain conceit if we want to succeed in improvement, and thus we may in the course of time, arrive at competing with what are called the "great wines" of Europe.

If, for the present, such competition is yet out of the question, it is nevertheless true that our American wines, when well made, need not fear to enter the ranks with the great bulk of the European wines, the so called "vin ordinaire" of the French, or the ordinary wines which enter into the daily household consumption, and this in itself is a result which must gratify us, considering the infancy of this culture on American soil, and which should encourage us and stimulate further progress.

To the inhabitant of the middle and southern Europe wine is a necessity as an article of daily diet. He is loth to replace his healthy and invigorating drink by any other beverage, and with the destruction of his own favored vineyards staring in his face, he will look to America for his supplies if he will improve the opportunity. Even though in those districts of France which have already suffered the most, the work of regeneration by the use of resistant American roots is going on, yet the progress which it makes is necessarily slow, and new centers of destruction spring up every year. The European countryman is naturally slow to adopt innovations, and the process of grafting, to which he must resort in order to preserve his own cherished varieties, still further retards his progress. In the meantime the production of wine in Europe grows annually less, while the demand does not abate, and even now there would be an export demand for the wines produced east of the Rocky Mountains if we could only supply it.

But it is not the prospective good foreign market alone, which should stimulate us to a larger planting of vineyards, and to greater production of grapes and wine. The increasing home demand for good, pure and healthy native wine should be fostered, fostered in the interest of true temperance. In the same ratio that a rational consumption of the lighter beverages, such as beer, cider and wine increases, in the same ratio will temperance decrease. This is neither the occasion nor the place to argue the temperance question, and I fear that many of the gentlemen present would not admit the correctness of my views thereon. But of one thing I am satisfied, that all who are present here are the friends of true temperance, and in the true meaning of the word, even though some differ from the other as to the best means for attaining this end. I may be pardoned the remark if I state that during my three months stay in Europe, which time was nearly all spent in the wine growing, and I might say wine drinking region, not a single case of drunkenness came to my notice, and yet I have had ample opportunity to observe the people, not only in common every-day life, but also on feast days, and on occasions when one would naturally suppose that all restraint would be cast aside. Yet at no time have I seen one single case of intoxication. This has been my experience on my last trip, and it has only verified that of my previous visit to Europe in 1877, where during a stay of several months in southern France, I saw only one drunken person, and this was at Toulon, and the man was a sailor, who had probably just come in from sea.

There are other points which present themselves to our consideration in regarding the situation in Europe and America, but I fear that I have already taken up too much of your valuable time and attention. I hope that what I have said may be sufficient to explain to you why I have such great faith in the future of our grape industry. To speak to you about the different systems of culture would lead too far, and would seem to me almost out of place before such practical men as are assembled here. There is only one feature in the cultivation which I had occasion to see in Italy, which struck me as particularly applicable to many of our American varieties. I would like to call your attention to it in the hope that some of you may be persuaded to give it a trial, and that this may produce a satisfactory result. The feature, or system rather, to which I refer, is the cultivation of the vine on living trees, instead of trellis or stakes. I will try to give you an outline of it as brief as possible.

The tree principally employed for this purpose is the *Acer campestre*, a species of the maple, which I am sorry to say I could not find enumerated in any American catalogue. The trees are raised in nursery, and at the age of two or four years, when they are about four to five feet high, are ready for transplanting in vineyards. They are planted at a distance generally about twelve feet each way, though some plant closer or further, according to the nature of the soil, some planting also with a wider space between the rows and cultivating the intervening growth with other crops. At the same time with the trees are planted the vines, which are set in the rows, about midway between the trees, or about six feet from the latter. The vines and trees are both well cultivated, so as to induce a rapid and healthy growth. At the end of the first season the vines are cut down to one or two eyes above the ground, and the second season one or two strong canes are grown from them, which are kept carefully tied up to temporary stakes. At the end of the second or third season, or as soon as the vine has attained a sufficiently strong growth of cane, it is laid down in a trench about eight to ten inches deep, to the tree, the trench is covered in and the canes shortened back, so that only two or three eyes of the vine project at the immediate base of the tree. It is now ready for training up on the tree, the roots of which do not interfere with its growth, as the main feeding roots of the vine are at a sufficient distance from the tree, and thus induce an extra strong and healthy growth. The trees are generally allowed to branch out at a height of four to six feet, and it is at this height also that the new head of the

vine will be formed on one or more permanent main stems trained up from the bottom. The after system of pruning and cultivation differs but little from ordinary vineyard culture. The trees also receive an annual cutting back, so as to keep the head open and within bounds, and if necessary, some roots and leaves are removed in the summer, to admit air and light. Once that the vine has reached its hold among the forks of the tree, but little tending is necessary afterwards, the branches and twigs affording plenty of support and holding to the tendrils. When I saw the first vineyard of this kind, with the trees supporting their load of fine luscious grapes, the latter nicely and evenly distributed among the branches by nature's own hands, it was a sight to gladden the heart of a grape grower, and at the same time it struck me as a system to which our American vines should be peculiarly well adapted in consequence of their climbing habit.

Those who know the cost of grape stakes or trellis, and the constant expense and trouble of repairs and renewal which the latter entailment require, will appreciate the advantages which such a plan would offer, if it can be successfully applied in this country. This vine where it originally stood and the cane therefrom being laid down at a sufficient depth, admits of horse cultivation in both directions, requiring a little care only so as not to go too deep when crossing the laid down canes.

We have made a small experimental planting on this plan this spring, using box elder in the place of *Acer campestre*. Probably our esteemed friends Mr. Meehan or Dr. Warder can inform us whether the latter can be grown and would be hardy in this country, or if not, what might be considered a good substitute therefor. In speaking of the matter to a friend, some time ago, he suggested Morello cherry as affording at the same time a double crop, but I doubt whether this would work well with the annual cutting back which is required. The most important points to be observed in the selection of the tree seems to me to be a quick growth in the first years, but yet not a natural large grower, a tree that will shed its foliage tolerably early in the fall, and especially one that is not naturally a gross feeder.

Prospects for the Apple Crop.
The fruit crop has been steadily growing in importance for a number of years, and the success of canning establishments, evaporators, fruit preserving houses, and the prosperity of growers, dealers and exporters, depends upon a fair crop of fruit. Others who have invested money in the manufacture of evaporators and machinery for canning factories are also much interested in fruit prospects. The American Rural Home, reviewing the situation, says:

"Experienced pomologists have about settled upon the conviction that the apple tree is only biennially fruitful. A few exceptional species may bear tolerably fair crops annually, but those species most depended upon to supply the market, seldom have two consecutive crops on the same branches of a tree. Sometimes happens from accidental causes, that one portion of the branches of a tree bear one year, and the remaining branches the next, but that only confirms the impression, that it requires two seasons to perfect the fruit-bud of the apple.

"From some mysterious cause, in the best fruit sections of our country, for the last twenty years (perhaps longer) the leading varieties of apples have fallen into the habit of bearing their maximum crops on even years, and consequently, the apple crop is light on odd years—frequently only one-fourth of that on even years. We do not aver that there is so great a disparity in the amount that reaches consumers, for in bearing years the product is larger than can be profitably handled, and a considerable proportion is either fed to stock, or suffered to rot on the ground.

"In 1879 the yield was unusually large for an odd year. From adventitious causes, many large orchards, or parts of orchards, were bearing heavy crops, and many indulged the hope that the bearing year was changing and the future apple crops would be more equally distributed through successive years, and the supplies, prices and incomes from fruit-growing and fruit-preserving would be more remunerative. This hope was strengthened by the appearance of apple orchards during the blooming season of this year. They were blossoming very much fuller than ordinarily, on the odd year, and orchardists, and those who had large investments in the various modes of preserving fruits, were cheered by the prospects. But observing orchardists, who were watching for the second sign of promise, the young fruit, in a few days after the fall of the blossoms discovered that the fruit germs had also fallen with them to an extraordinary extent. Of course, when there is an effect, the philosophical mind at once sets about to ascertain the cause, and the first plausible explanation of the result is, that the long rain storm, while the trees were in blossom, was the cause. It was said that the atmosphere was so stagnant during that period, that the pollen could not dry between the rains, and that so long as it was wet it could not reach the ovum of the fruit. Others claim that such a theory does not explain all the phenomena; that many trees, under precisely similar conditions as those that are barren, with no more exposure to wind, are fruitful. The probability is, that some conditions affecting results escaped notice.

"But the public are more interested in the question, is there fruit enough left in the country to supply the demand, or what is the prospect for a crop? We have taken some considerable pains to gather information on the subject, from different parts of the country, and especially from the two great apple States, New York and Michigan. In the great fruit belt of western New York, the tiers of counties along the shore of Lake Ontario, the crop will undoubtedly be much lighter than two years ago. There are localities, especially near the lake shore, where there is considerable

show of fruit. This is probably owing to the fact, that the lake chills the air of spring, making vegetation later, and keeping back the period of blossoming. Apples there did not bloom very likely, until the rainy season had passed. We also hear favorable accounts from the southwestern counties, although those counties are not largely devoted to fruit, except, perhaps, portions of Chautauque. Through the interior counties of western New York, the apple crop is generally light, though we hear of now and then an orchard promising fairly, but as you ride through the country you perceive that barren orchards predominate, and fruitful ones are of rare exception.

"From many portions of Michigan, we hear reports of a light apple crop; but a very few counties report a fair crop. The reports from Ohio, as a whole, are more favorable than from any other State, but at the best, Ohio does not export a great deal of fruit. Some portions of New England, especially portions of Maine and New Hampshire, are bearing more than ordinary crops, but ordinary crops there, are so light that the report does not count. Taking the whole country through we are impressed with the conviction that the aggregate crop will not only be less than that of 1879, but less than the average of odd years.

Horticultural Notes.

Plaster sprinkled upon rose bushes and grape vines is recommended to keep off the rose beetles.

A stand for plants should be on castors, so that the plants may readily be turned to the light and the warmth of the sun.

A teaspoonful of carbolic acid in two gallons of water, is said to prove as destructive to the currant worm and rose-bug as kerosene.

The perfume of some flowers is in a degree poisonous, and they should never be carried into a close sick room. Especially is this true of the tuberose, oleander, hyacinth, heliotrope, orange, lilac, syringa and lily.

Gardening, as well as the art of making bouquets is taught in the gardens of Japan, and nowhere in Europe are there so many flower-gardens as in that country. All new species and varieties of garden flowers and trees are sold at high prices, and become known throughout the country with great rapidity. Gardening is carried on by all classes.

The handsome white water-lily is admired by all for its fragrance and beauty. It is sometimes cultivated in tubs of water or artificial ponds. Where there are brooks or muddy pools of water near dwellings, I have often wondered why the owners did not plant there some roots of the water-lily—which could be easily obtained in a dry time—and so have the handsome flowers near at hand, instead of going long distances after them to the ponds where nature has planted them. The plants, I suppose, would require no attention after being once set out. The sight which I once had of a little pool completely covered with these beautiful flowers will not soon be forgotten. We often hear this flower incorrectly called "pond-lily." The name water-lily, besides being the authorized and true name, and so the one to be used whether appropriate or not, is also much more fitting of the two, as the plant is not at all confined to ponds, but grows also in brooks and in muddy pools.

To take off a leaf, or cut a small root detracts just so much from its working machinery. To prune and shape the tree before the leaves are out does not appear to derange the working growth of the tree, for it appears to have a sort of plant intelligence—the seed put in the ground knows enough every time to send its roots down, and second, to send its top up into the air and sunlight. When we amputate the limb of a tree in spring, when there are no leaves, it usually goes to work and sends out another limb, or many sprouts, and pushes them out strong and full of leaves to work and repair the loss, and reasons thus: What shall the roots and trunk beneath this cut off limb do this season? We must either find something to do or become drones, and die and rot. Let us send out another limb. We may readily believe that the tree philosophizes about in this way; and we ought to be more careful with our trees, and take off no large limbs, but rather shape them when quite small. Street trees are usually headed too low. Train them higher, and as they get large they will be the more beautiful.—Suel Foster, Muscatine, Iowa.

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The extensive and prolonged drought continues all over the country, and small fruits and certain varieties of vegetables are very scarce, commanding large prices in the market.

The firm of Belcher & Schwarz, has incorporated under the name of, "The Oak Hill Refining Co.," and expect to work to a capacity of fifty per cent. more than last season. They will probably commence grinding before the 20th inst.

The prolonged dry spell continues to brace up the corn market. Another week without a rain and corn will show considerable advance above the prevailing high prices. The speculative demand is unusually heavy at present and is likely to continue so for some time.

We had the pleasure of a call from G. C. W. Belcher yesterday, who has just returned from an extended trip in the east. He reports the crop of cane at Edwardsville as suffering from the extreme drought; but as being in somewhat better condition than last years crop.

The protracted drought is playing sad havoc with the grape crop. Some of the growers in this county and down along the Iron Mountain railroad also, inform us that the bunches are drying and shriveling up on the vines and will soon become worthless unless saved by a rain.

President Garfield had a somewhat serious relapse early in the week and the bulletins were of a very gloomy nature. There has been some improvement, however, owing to a recent operation for the release of pus, and a consequent feeling of relief by the public generally.

Venor predicted cool nights for August, and although the days remain very sultry, it is certain that after sun down the weary can lay down to rest with a better assurance of getting a good nights sleep than they could a week ago. A man can do without anything better than sleep.

The breeding of Scotch collie dogs is becoming an important industry in this country. It will be important to farmers, who, if they must keep dogs, should keep this sagacious and useful breed in lieu of the miserable sheep-worrying curs, that destroy thousands of dollars in value every year.

The receipts of peaches in this market average now from two hundred to three hundred boxes daily. Texas and Tennessee contribute most. Indiana and Louisville, Ky., have also sent in some. Kansas has some to spare, but none of them have come to the St. Louis market yet. Southern Illinois has also sent in a few hundred boxes.

The very dry weather is playing sad havoc with the corn crop. This should admonish farmers to supply winter and spring food for stock. Send for a Ca-hoon's hand seed sower, and sow rye in the corn fields or elsewhere, and it will be a splendid investment. Rye for winter and spring pasturage is not properly appreciated. If it were, every farmer would have a number of acres sown every summer or fall.

On Sunday last an excursion of newspaper men and others was made to Creve Coeur Lake, these being the guests of Capt. Dan Carroll who projected the great festival and picnic for August 21st. Interesting experiments were made with fire works, etc., and it was evidenced that there is no such place to display pyrotechnics as upon the bosom of a calm, placid lake. With the improvements being made the lake and its surroundings grow in beauty every month and it is already the favorite resort of St. Louisans. The event of August 21st, will be a magnificent affair and well worth attending.

The finest lot of peaches offered in this market for a long time have been arriving the last three weeks from Mr. Wm M. Klyce, Paris, Texas, and consigned to P. M. Kiely & Co. The variety appeared to be the Chinese cling, but it was far superior in size, color and quality to the same variety from other points, bringing double the prices received for those from Tennessee and Arkansas. The lot was so eagerly

sought for each morning that the receivers deemed it best to put them up at auction. Prices ranged from \$2 to \$2.50 per box throughout. As the express charges were only thirty cents per box, the grower realizes a very handsome figure from his shipments.

Commissioner Loring, no doubt finds himself in a position where much self-assertion is needed. Amongst other things, he is urged to give up Mr. Le Duc's tea experiment in South Carolina, as being a barren waste of the Congressional appropriation of \$15,000. It is asserted that a large portion of this has been used up in removing an old mansion preparatory to rebuilding and laying out an avenue through the grounds. Furthermore that the farm is exhausted by the drains of successive crops. Wm. Sanders of the agricultural department has returned to Washington, and reports to Dr. Loring that the climate is not warm enough for tea culture and reiterates what was said about the poverty and want of care of the soil. Now the paragraphists of the press are opening their budgets of wit at Le Duc's expense, one humorist suggesting that the objective idea was to graft sprouts of the tea plant to sugar cane, and then combine two qualities of a standard beverage.

In New York there is a society called the Business Men's Society for the Encouragement of Moderation. The temperance element enters therein, but not the total abstinence, the pledge and obligations being of a limit according to the desires of the member. Some agree to abstain from liquor or beer during business hours; others to limit themselves to so many imbibitions of the "soul of corn," or the Teutonic nectar, while others confine themselves to the mere consumption of table wine at meals. Indeed there is no end of the variations developed. However it may please or displease either of the antagonistic parties, the fact can not be gained that the B. M. S. E. M. has in its brief existence effected some wonderful reforms and has done a world of good. Now one of the movements they propose indulging in is the analysis of the different brands of beer sold over the public bars. It is a notorious fact that there has been some fearful adulteration in this fluid of late years, and the authorities will be urged to prevent the sale of the injurious stuff. The brewers are in a ferment over it and somebody is going to get hurt.

The Chicago Fair.

From Sept. 12th to 17th, inclusive, the Chicago Fair Association will hold its grand live stock show and agricultural fair and for the purpose has secured the magnificent grounds of the Chicago Driving Park for the purpose. The best business men of Chicago are interested in the venture, and no pains or expense will be spared to make the affair a magnificent success. Those who know the indomitable energy and enterprise of the "Garden City" citizens need scarcely be informed that this, the inaugural fair, will be one of the best and most complete ever given on the continent. The premiums aggregate \$30,000 and in addition to the usual fair features, there will be running and trotting races, steeple chases, equestrian contests and various other attractive items. Attention is directed elsewhere to the official announcement by the association.

The Heat and Drought.

A month or six weeks ago, there was the promise of one of the largest crops of corn that has ever been raised in the United States. We regret to say that promise has been dissipated. In many sections there has been no rain from that period to the present time. There have been some local showers, but the earth was so parched they did but little good. Besides the lack of rain, the heat has been intense for the entire period, almost burning vegetation. Corn and indeed all the grasses are dried and shriveled up. The leaves of the trees are prematurely ripening and falling. Streams and ponds and watering places for stock are becoming dry. Gardens are failures. To-day (Aug. 9th), the thermometer at the signal service station, on the highest building in St. Louis, and out of the reach of any surrounding influence, shows 105 degrees in the shade, and in other places much greater heat. It is said to be the hottest day known for forty-five years. And still there is no promise of rain. The effect of this terrible drought is a most injurious one upon the whole country, as it will materially shorten the corn crop, and that will shorten the pork crop, the beef crop, the mutton crop, and the dairy yield.

The Stock and Timber Question.

EDITOR RURAL WORLD: In your valuable paper of a late date, Mr. Jackson, of Miller county, when he referred to a sheep range on the Osage, says the lands are of little use, except for timber, as if timber were worthless. Now let us see if that is so; last year a gentleman, contractor of railroad ties, told me that he had received from the Gasconade and Osage rivers, eleven hundred thousand ties, the price of which were 75 cents each or \$75,000 per thousand, or the round sum of \$82,500. We would think this quite a snug sum only for valueless timber, and the price is going up every year, naturally, as the timber gets scarcer and demand larger, as there are more railroads building and

prairie farms improved that require timber than ever before. In hilly, timber lands, all the grasses, hazel brush, and other small shrubbery should be kept standing, to catch and hold all the leaves that fall from the trees, so as to protect the roots and make a rich, natural mulch for the trees, and thus hold the leaves so that the winds cannot blow them away.

G. W. T.

The New Commissioner of Agriculture.

Dr. A. S. Heath, of the New York Farmers' club, has written for the American Dairyman a sketch of the life and works of the new commissioner, and we shall take therefrom the following leading points: George Bailey Loring was born at North Andover, Mass., November 8, 1817, graduated at Harvard college in 1838, and at Harvard Medical college in 1842. In 1848 he became Surgeon of the marine hospital at Chelsea, where he remained till 1850. In 1853 the doctor was made postmaster of Salem Mass. During nearly all this time he was ceaselessly active in writing, making addresses and studying practical and scientific agriculture. It was at this period that he distinguished himself as a rare and ready debater, a cogent reasoner and a graceful speaker. Soon after the doctor became widely known to the prominent agriculturists, scientists, statesmen and literary men of that day, a fatal cattle disease broke out in Massachusetts and the neighboring states, causing great loss and producing wide spread consternation. His professional and agricultural studies, and his ability and energy pointed him out as the fittest commissioner to exterminate that fearful scourge—pleuro-pneumonia. He was commissioned in 1860 and most nobly did he perform the onerous and difficult task of stamping out that contagious malady among cattle. The plans he successfully pursued then, can now be profitably and successfully followed by a United States commission, for ridding the country of a contagious scourge that may cost us hundreds of millions of dollars worth of cattle.

About this time Dr. Loring was extensively engaged in farming, and though his husband and youth were not agriculturally neglected, again he devoted his time and talents to the practical work of the farm. The chief products of it were milk, vegetables and hay. In 1859 Dr. Loring imported some of the finest Ayrshire dairy stock that could be found in Great Britain, and he has continued to breed them successfully ever since.

He founded the Northeastern Agricultural society in 1864, became and is still its president. This society is in a most flourishing condition. He was a trustee of the Massachusetts society for promoting agriculture from 1858 to 1863. He has published his numerous addresses, papers, lectures and articles on literary, agricultural and scientific subjects, which largely contributed to the literature of the times. As a lecturer, Dr. Loring is dignified, graceful, effective, pleasing and entertaining; as a writer, earnest, clear and instructive, and as an orator, distinctively forcible, eloquent and convincing.

In 1870 his address at the opening of the scientific course of the American Institute at New York was widely copied. He is now not only a member of the American Institute, but for many years he has been a member of the Farmers' club of that institute, which is the oldest farmers' club in the United States. The doctor is also a member of the American Agricultural Association, and contributed a valuable paper on "The Problem of American Land Holding."

Dr. Loring was in the Massachusetts House of Representatives from 1873 to 1876 inclusive. It was here that the doctor's eloquence was most brilliantly displayed in a speech in behalf of his old friend, Prof. Agassiz, on scientific education; and in a grand and masterly defense of the immortal Sumner. His eloquence is fervent, fluent, forcible and glowing; his voice is strong and musical his countenance is expressive, and his physique perfect, large, manly and graceful; his gestures simple and impressive, and his broad and high forehead and handsome face make him universally admired by the audience; and his pleasing style and manner make an hour seem but a few minutes. As a member of the 45th and 46th Congresses, his views on the great problems of agriculture were more earnestly sought than were Dr. Loring's. In fact few men at any time during the existence of our republic have done more for agriculture.

For nearly 20 years Dr. Loring was a member of the State Board of Agriculture, and for a long time president of the State Agricultural Society of Massachusetts. Dr. Loring has been associated with such men as Agassiz, C. A. Flint and others, in agricultural and scientific labors. His acquaintance with the prominent men of the day is remarkably extensive.

Dr. Loring's contributions to agriculture and literature were large and valuable; his experiments were accurate and useful, and as a practical farmer and breeder, his good judgment, extensive knowledge, and good common sense have proved that farming can be made to pay. But what renders Dr. Loring's services to the department and to the country most valuable, is his broad and liberal views, and his perfect freedom from hobbies. These he neither imports, breeds, raises nor rides. The whole field of national agriculture, under his superintendence, will be practically and faithfully cultivated.

EDITOR RURAL WORLD: I would like the names and addresses of a few prominent citizens of the counties of Dent, Texas, Shannon, Reynolds, Howell, Oregon and Ripley, who can give me information in regard to their country. I wish to know all about the advantages offered to settlers. What per cent. of the country is farmed? What per cent. timber, or prairie? How is the water supply—streams, springs or wells? What kind of timber do you have? What kind of stock range do you have? Do cultivated grasses succeed with you? Is it a real good grain growing district? What are your railroad advantages and prospects? What kind of society, schools, churches, etc., do you have? Is there much interest in improved stock, horses, cattle, sheep and hogs? How does land sell? Is there public land, government school, railroad, etc., to be had, and on what terms? Let me have the good and bad.

E. B. ALLEN.

REMARKS.—We publish the above letter that any of our subscribers in those counties who feel disposed may reply to it.

CORRESPONDENCE.

COL. COLMAN: It is very dry in our county. We have had no rain for six weeks. Corn is suffering very much. Late Irish potatoes have gone by the board. We will lose the seed. Our wheat is about one half a crop. D. C. Union County, Ills.

COL. COLMAN: E. Dillon & Co., will ship by special train of thirty-three cars from Chartres to Havre 119 head of Norman horses. The 30th of July they will ship from Havre to New York by the steamer City of London, and expect to arrive in Bloomington, Illinois about August 20th, with this month cargo of horses. D. La Ferte Benard, South France.

COL. COLMAN: Can you or any of your readers give me any information as to parties who are making a business of breeding polled cattle, either Angus or Galloways? If so, please do so, and oblige. J. O. BUNCE.

Sheldon, O'Brien Co., Iowa.

REMARKS.—Any one who can give the information will confer a favor.

COL. COLMAN: I want next spring to plant out twenty acres of sweet apple trees for hogs. How do you think it would pay, and what are the best five sorts? Please answer through the RURAL WORLD, and oblige.

J. W. BAILEY.

Lee's Summit, Mo., Aug. 1, 1881.

REMARKS.—Will some of our apple growers please answer?

COL. COLMAN: Find inclosed \$1 for the RURAL WORLD. Your paper should be in the hands of every manufacturer of sugar and sirup. Please inform me where I can purchase saccharometers, and I will return the compliment by adding to your subscription list when possible.

H. F. BROWN.

Caledonia, Minn.

REMARKS.—I. A. Hedges, 2004 Broadway, St. Louis, keeps them for sale. Price, we believe, is \$1 each.

Causes of Dew.

If dew fell it would fall for the same reason that rain falls; but dew does not fall. It is simply a deposit of moisture always contained in the air to a greater or less degree, and which, when there is enough of it, will always form on any cold body exposed to the moist air, in precisely the same way that a cold bottle or stone, taken from a cold cellar and suddenly exposed in the shade to the moist, warm summer air, will become wet. This is not sweating nor does this moisture come out of the bottle or stone as many people believe, but from the air. It is for the same reason that moisture will condense against the window-panes when the air is cold outside and moist inside, the moisture slowly freezing while its deposits form crystal ice which we so often admire in winter. When the weather is cool enough the moisture will even freeze plants and grass, and then we call it frost; if it does not freeze it is simply dew. The only point left to be explained is why does the ground become so cool during the night, so much cooler than the air above, as to cause the latter to deposit its moisture. This was for many years a vexed problem till Wells first suggested the radiation of obscure heat, which takes place from the surface of the earth through the clear atmosphere into the space above, and so causes the surface to become much cooler than the air itself. He demonstrated this by means of thermometers placed at different heights, and also by the fact that dew is only deposited on cloudless nights. When there are clouds they reflect the heat or prevent it from escaping. The surface of the earth thus being kept from cooling, no dew is deposited.

Tree Culture in California.

Eight years ago an emigrant from an eastern State arrived in one of the bay counties with his family and a capital of \$75. He had some knowledge of horticulture, and was a good practical gardener. A capitalist, who was the owner of some comparatively useless land, contracted with this immigrant for planting and tending forty acres of this land in Australian gums or eucalyptus.

The breaking, fencing, planting and labor on the land cost the owner \$3,000. At the end of the first year he had 32,000 thrifty trees, and the second year he set out the shaded ground in pasture, and retained its verdure nearly throughout the entire twelve months, showing a denser growth each year. At the beginning of the third year he utilized this pasture for dairy cows, and found it strong enough to support two cows to the acre. He estimated its value for this use at \$4 per month per acre for eight months out of twelve, or \$32 per year per acre. The total yearly profit from this source was \$1,280.

At the end of the eighth year he was offered in cash by the keepers of a wood yard, 30 cents each for his trees, or \$250 per acre, the purchaser to pay all the cost of cutting and removing the timber. The total value was \$9,600, but in the meantime the owner of the land had had five years' use of the pasture, which by his own close estimate, was worth to him \$6,000. This makes the grand total of gross earnings in eight years \$15,600. From this must be deducted \$3,600 paid out for the nursery plants, fencing and labor, and an expense of \$500 for water for irrigation during the first two years, leaving a net income of \$11,500, or \$287.50 per acre for the eight years, or \$36 per acre for one year.—San Francisco Chronicle.

Consumption in its early stages is readily cured by the use of Dr. Pierce's "Golden Medical Discovery," though, if the lungs are wasted no medicine will effect a cure. No remedy possesses such soothing and healing influence over all scrofulous, tubercular, and pulmonary affections as the "Discovery." John Willis, of Elyria, Ohio, writes: "The 'Golden Medical Discovery' does positively cure consumption, as, after trying every other medicine in vain, this succeeded." Mr. Z. T. Phelps, of Cuthbert, Ga., writes: "The 'Golden Medical Discovery' has cured my wife of bronchitis and incipient consumption." Sold by druggists.

The fifteen great American inventions of world-wide adoption are: First, the cotton gin; second, the planing machine; third, the grass mower and reaper; fourth, rotary printing press; fifth, navigation by steam; sixth, the hot air engine; seventh, the sewing machine; eighth, the India rubber industries; ninth, the manufacture of horse-shoes; tenth, the sand-blast for carving; eleventh, the gauge lathe; twelfth, the grain elevator; thirteenth, artificial ice making on a large scale; fourteenth, the electric magnet and its practicable application; fifteenth, the telephone.

The Bray of the Mexican Donkey.

The New Orleans Democrat recounts the many good qualities of the Mexican burro that has lately been introduced into that city as a child's horse, who, it seems, can banquet on splinters and scraps, carry immense loads, and is faithful, uncomplaining, docile and tireless; but, "we regret to say," continues the Democrat, "the burro brays. Amazing as is his strength, his stamina, his amiability, his courage, these things are as nothing compared to his bray. That such a tremendous and far-reaching sound should emanate from so small a source constitutes the eighth wonder of the world.

When the little blue burro—they are nearly all blue—concludes to celebrate his scanty period of relaxation by a good, healthy, whole-souled bray—when he humps his little back, and shuts his appealing little eyes, and lets his ears lie along his back, and then gathers himself into one ecstatic note, it is enough to make one envy the sainted dead and long for the cold and silent grave. The sleepers for a mile around start up with the sweat of terror on their furrowed brows, children fall down in fits, the sick believe they have heard Gabriel's horn, and the very atmosphere shudders like a human creature. Burros don't often bray, because they haven't much time to bray; but when they bray sometimes, and that is what keeps them so low in the scale of animal nature. Without his bray the burro would be little short of an angel. As he is, however, he is an animal to be admired at a distance and in the abstract."

To Keep Boys on The Farm.

Provide an abundance of reading, books and farm papers, fresh from the press and the pens of those who are giving to their brother farmers their success or otherwise with various farm products and farm management. This, perhaps more than anything else, will help to cultivate an interest in farm work, even to a little enthusiasm and ambition to try and do better than we otherwise would. What a terrible mistake that any farmer, no matter how poor he may feel, will decide that he cannot take two or even one weekly agricultural paper, to the unmeasured benefit of himself, his family and his boys! In how many such places will be found instead, the New York weekly story papers, bringing in direct contact with his boys the very element that perverts their taste and desire for farm life, and creates a longing for the excitement of the adventurer drifting up and down in the earth. We reap the kind we sow. This law is fixed. We scarcely need to ask, "What will the harvest be?" We may protest to ignorance many times. It is very much a lie nevertheless.

Another important incentive to attachment to the farm I deem to be a share in the farm or land to till, the product of which should be wholly their own. Give the boys a little responsibility. Even go so far as to consult—or seem to, at least—about the management of crops, etc. Tell them plainly and truly that they are of great importance to you and the farm, and treat them as your sons and heirs. Encourage them to have a little bank account of their own. By all means, let them own live stock—not "Sammy's" calves and father's oxen," as is too often the case. Send or take them off to see some of the "big farmers," blooded stock, etc. I will close with one other item, though not the least by any means. Give them good tools to work with, and insist that they take good care of them—not leave them out doors all winter as you do your mowing machine and horse rake.—N. E. Homestead.

Mayor Batty.

In the subjoined paragraph will be found a compliment to Mayor Beatty, of Washington, New Jersey: Thursday evening last it happened we were on the passenger train that reached Washington at about seven o'clock, and while stopping to change engines a splendid span of horses was noticed upon the street some distance below the track, drawing a carriage containing two gentlemen, neither of whom was recognized by us until a hum passed through the car, and the name of Daniel F. Beatty, the Organ King, was spoken with the familiarity of a household, and in an instant many of the windows were hoisted as the passengers seemed intent upon getting a better view of the elegant turnout of that well-known gentleman. The Mayor gracefully acknowledged the compliment, and removing his white silk hat bowed respectfully to the occupants of the train. We do not note this fact as an advertisement, but as a pleasure. By strict attention to business this comparatively young man has built up a business of colossal proportions, and is at present giving employment to as great a number of men, if not greater, than any private individual in the county. Enterprise is what we most admire, and whether it comes from the railroad, mining or organ business, it is just the same to us. We say success to Beatty the Organ King and long may he live to fill the world with music and the pocket of the skilled mechanic, with money. Would that our county had more such men.—Blairtown (N. J.) Press.

Mayor Beatty, though young, and a few years ago poor and obscure, is now certainly one of the best known business men in the country. We know an intelligent lady who some time since became impressed with the idea that Mayor Beatty was overdoing the organ business, and she conceived the peculiar notion that she would like to learn of some happy spot where Beatty and his organs had never been heard of. She interviewed people who had traveled in the west and inquired of friends who had made an extensive tour of Europe and the east, and alas for her cherished hopes, they reported that they had not gone beyond the lines of Beatty's advertising circles. He is ambitious and is pushing ahead, and will probably never be satisfied until he has spanned advertising web which will stretch over the civilized portion of the globe.—Belvidere (N. J.) Apollo.

We clip the above from the Apollo, and heartily endorse the sentiments expressed. We have known Mayor Beatty from the commencement of his career, and have watched with pride the growth and expansion of his business, from its beginning to its present mammoth proportions.—Washington (N. J.) Star.

As a tonic and nervine for debilitated women nothing surpasses Dr. Pierce's "Favorite Prescription." By druggists.

Fairs for 1881.

STATE AND DISTRICT FAIRS.

Illinois, Peoria, Ill., Sept. 26 to Oct. 1. Ohio, Columbus, O., Aug. 29 to Sept. 2. Pennsylvania, Pottsville, Pa., Sept. 5 to 17. Indiana, Indianapolis, Ind., Sept. 26 to 30. Iowa, Des Moines, Sept. 5 to 9. Wisconsin, Fond du Lac, Wis., Sept. 26 to 30. N. W. Agr'l and Mech'l Ass'n, Oshkosh, Wis., Sept. 12 to 17. Nebraska, Omaha, Neb., Sept. 12 to 18. Minnesota, Rochester, Sept. 5 to 10. Chicago Exposition, Chicago, Sept. 7 to Oct. 22. St. Louis Fair, St. Louis, Oct. 3 to 8. Montana, Helena, Sept. 26. Texas Capital State Fair Ass'n, Austin, Oct. 18 to 22. Michigan, Jackson, Mich., Sept. 19 to 23. Tri-State Fair Ass'n, Toledo, Sept. 12 to 17. Kansas State Fair Ass'n, Topeka, Sept. 12 to 17. Northwestern Expo'n, Minneapolis, Sept. 12 to 18. Central Ohio, Mechanicsburg, Sept. 13 to 16.

MISSOURI FAIRS.

Saline Co., Sweet Springs, Aug. 15-30. Pike Co., Louisiana, Aug. 16-20. Lafayette Co., Higginsville, Aug. 23-27. Callaway Co., Fulton, Aug. 23-27. Boone Co., Sturgeon, Aug. 30 to Sept. 3. Audrain Co., Mexico, Aug. 30 to Sept. 3. Boone Co., Columbia, Sept. 6-10. Saline Co., Marshall, Sept. 6-10. Jackson Co., Kansas City, Sept. 12-17. Cole Co., Jefferson City, Sept. 13-17. Monroe Co., Paris, Sept. 13-16. Pettie Co., Sedalia, Sept. 20-24. Montgomery Co., Montgomery City, Sept. 20 to 24. Marion Co., Hannibal, Sept. 27-31. Monticello Co., California, Sept. 27-30. St. Louis Co., St. Louis, Oct. 3-8. Knox Co., Edina, Oct. 4-6. Northeast Mo., Williamstown, Sept. 19 to 23. District Fair, Appleton City, Aug. 30 to Sept. 3. Platte Co., Platte City, Aug. 30 to Sept. 3. Nodaway Co., Maryville, Sept. 19 to 24. Franklin Co., Washington, Sept. 14 to 16.

ILLINOIS COUNTY FAIRS.

Adams county, Camp Point, Sept. 5-9. Boone, Belvidere, Sept. 6-9. Brown, Mt. Sterling, Aug. 22-26. Bureau, Princeton, Sept. 20-23. Carroll, Mt. Carroll, Sept. 6-9. Cass, Virginia, Sept. 13-16. Champaign, Champaign, Aug. 30 to Sept. 3. Chicago, Chicago, Sept. 2-17. Clay, Flora, Sept. 27-30. Coles, Charleston, Sept. 13-17. Crawford, Robinson, Sept. 27-30. Cumberland, Prairie City, Sept. 8 to Oct. 1. DeKalb, Sandwich, Sept. 19-23. DeKalb, Sycamore, Sept. 20-23. DeWitt, Clinton, Aug. 23-26. Douglas, Tuscola, Sept. 13-18. DuPage, Wheaton, Sept. 6-8. Edgar, Paris, Sept. 6-9. Edwards, Albion, Oct. 4-7. Ellingham, Ellingham, Oct. 4-7. Fayette, Vandalia, Sept. 21-23. Ford, Paxton, Aug. 30 to Sept. 2. Franklin, Benton, Oct. 11-14. Fulton, Canton, Oct. 4-7. Fulton, Fulton, Sept. 20-23. Gallatin, Shawneetown, Aug. 30 to Sept. 3. Greene, Carrollton, Oct. 18-21. Hamilton, McLeansboro, Sept. 13-17. Hancock, Warsaw, Oct. 19-21. Henderson, Biggsville, Sept. 13-16. Henry, Cambridge, Aug. 29 to Sept. 2. Iroquois, Onarga, Sept. 13-16. Iroquois, Watseka, Aug. 15. Jackson, Carbondale, Oct. 11-14. Jasper, Newton, Sept. 20-23. Jefferson, Mt. Vernon, Oct. 11-14. Jersey, Jerseyville, Oct. 11 to 14. JoDaviess, Galena, Sept. 27-30. JoDaviess, Warren, Sept. 13-16. Kane, Aurora, Sept. 13-16. Kendall, Bristol, Sept. 6-9. Knox, Knoxville, Sept. 12-16. Lake, Libertyville, Sept. 21-23. Lake, Watseka, Sept. 26 to Oct. 1. LaSalle, Ottawa, Sept. 5-10. Livingston, Pontiac, Sept. 13-16. Livingston, Fairbury, Sept. 5-9. Logan, Lincoln, Aug. 29 to Sept. 2. Logan, Atlanta, Sept. 6-9. Macon, Decatur, Sept. 20-23. Macoupin, Carlinville, Sept. 6-9. Marion, Centralia, Sept. 27-30. Marshall, Wenona, Sept. 19-23. Mason, Havana, Oct. 4-7. Massac, Metropolis, Sept. 13-16. McDonough, Macomb, Sept. 13-16. McHenry, Woodstock, Sept. 13-16. Mercer, Alton, Sept. 20-23. Montgomery, Hillsboro, Sept. 27-30. Morgan, Jacksonville, Aug. 22-26. Moutrie, Sullivan, Sept. 20-23. Ogle, Oregon, Sept. 20-23. Ogle, Rochelle, Sept. 6-9. Perry, Pinckneyville, Oct. 4-7. Pike, Monticello, Aug. 15-19. Pike, Pittsfield, Sept. 20-23. Pope, Golconda, Oct. 5-8. Randolph, Sparta, Sept. 28-30. Randolph, Chester, Oct. 11-14. Richmond, Olney, Sept. 13-17. Rock Island, Port Byron, Sept. 7-9. Rock Island, Hildesdale, Sept. 14-16. Sangamon, Springfield, Sept. 12-17. Schuyler, Rushville, Aug. 30 to Sept. 9. Shelby, Shelbyville, Sept. 20-24. Stark, Wyoming, Sept. 6-9. Stark, Toulon, Sept. 20-23. St. Clair, Belleville, Oct. 11-14. Tazewell, Delavan, Sept. 12-16. Union, Jonesboro, Sept. 13-17. Vermillion, Catlin, Sept. 13. Vermillion, Danville, Sept. 20-24. Vermillion, Hoopston, Aug. 22-26. Warren, Monmouth, Sept. 6-9. White, Carmi, Sept. 6-10. Whiteside, Sterling, Sept. 13-16. Whiteside, Morrison, Sept. 6-9. Whiteside, Albany, Aug. 31 to Sept. 2. Williamson, Marion, Sept. 27-30. Wabnebag, Rockford, Sept. 12-16. Woodford, El Paso, Sept. 12-17.

Never Fails.

No Instance of a failure on record when Simmons Liver Regulator has been properly taken. It removes bilious secretions, cures dyspepsia, constipation and sick headache, strengthens the kidneys and gently assists Nature.

The average growth in twelve years of a number of valuable varieties of timber when planted in belts and cultivated, is about as follows: White maple, one foot in diameter and thirty feet high; ash leaf maple or box elder, one foot in diameter and twenty feet high; white willow, eighteen inches in diameter and fifty feet high; yellow willow, eighteen inches in diameter and thirty-five feet high; Lombardy poplar, ten inches in diameter and forty feet high; blue and white ash, ten inches in diameter and twenty-five feet high; black walnut and butternut, ten inches in diameter and twenty feet high.

Dr. Pierce's "Favorite Prescription" is a most powerful restorative tonic, also combining the most valuable nerve properties, especially adapted to the wants of debilitated ladies suffering from weak back, inward fever, congestion, inflammation, or ulceration, or from nervousness or neuralgic pains. By druggists.

The Stock Breeder.

Value of a Good Brood Mare.

The question is often discussed as to whether the sire or dam exerts most influence on the product; but breeders of thoroughbred horses alone seem to fully understand the real importance of attending to the qualities of both sire and dam, and that until, by the exercise of judgment and proportionate good fortune favoring, the latter is obtained, the former can not be availed of. And ignorance of the real value of a good mare has repeatedly led to the farmer injuring his best interests by parting with the animal most useful to him—those adapted to produce the best horses for all purposes. Let anyone offer what is considered a good price, and the best brood mare is allowed to go, the farmer without any reason congratulating himself that he has effected a good and profitable sale in replacing a valuable brood mare by a bad, long-legged filly whose progeny can be of no earthly use to him. It can not be too strongly impressed upon the farmer that it is to his interest to retain his good mares, or to incur a liberal outlay for the best young mare he can find, and then use equal good judgment in the selection of a stallion, though he go so far as to search for him, and to continue the process by equally good management of his stock in all seasons. A valuable brood mare to an intelligent farmer is like his richest field, requiring good seed and diligent cultivation, and then, and not otherwise, will horse-breeding prove a profitable branch of agricultural industry.—New South Wales Agriculturist and Grazier.

Education of Equine Educators.

There are few pursuits which require more study than the training of horses, and the successful educator must be a man of mental force, and one who gives such thought to the subject. The pursuit is becoming of such importance that vast interests are at stake, and the magnitude of these demands that the professors of their art be thoroughly taught their business. It does not follow that because a few men who have not the advantages of even a trifle of "book learning" have become masters of their calling, that it is not necessary. These have succeeded in spite of the difficulties which would have been unsurmountable to men of less capacity, and had they been in a position to avail themselves of the written experience of others the task would have been far easier to learn. Practice, observation and a natural adaptability took the place of knowledge acquired from books and essays, or rather the native acumen, directed to this branch, in a measure made amends for the lack of education, and conquered obstacles notwithstanding their defect. They are compelled to keep a library in their memory, and at times when questions come up which are new, they have to be solved by a series of experiments, whereas a course of proper instruction would at once have directed them to a correct cue. There be those—and not a few at that—who will ridicule the statement that there is anything for the brain to do in the training of horses, and instancing some illiterate man, who is successful in the pursuit, claim that anyone is competent to perform the duties when practice has given him the necessary aptitude.

The man who has been the most highly educated may not be the deepest thinker, and the mind which has been disciplined by a rigid course of mathematical studies may not be able to cope with that which has never mastered the simplest problem. Men who have graduated with the highest honors of famed halls of learning have sunk into inferior positions when opposed by the self-made, outpaced and overborne by the superiority which comes from continual study. It may be the man who cannot write an intelligent business letter has mastered the intricacies of training so far as practical knowledge of the "ordering" of horses goes. He may be a close student of cause and effect, and a rightly apperceptive work to the requirements of the various members of his stable, and yet be lacking in some of the essential. This want he will feel, and though obscure from others the deficiency will be palpable to his own understanding, and he fully realizes the burden he is handicapped with, in being debarred from the advantages which the education of the schools afford. In addition to the usual branches taught in the common schools, the education of the man intended to follow the profession should be in a measure technical. It should embrace the physiology and anatomy of the horse, and be so thorough that the pupils would acquire knowledge enough of the osseous and muscular structure to have an intelligent acquaintance with the equine machinery. It is not to be expected that this part of the education will be carried to the extent which is necessary to constitute a veterinary surgeon, but that sufficient insight will be gained by the pupil to have a better understanding of the complex frame of the horses. It would be supererogatory to occupy time with arguments to show the advantages which will follow a course of anatomical studies, and equally superfluous to reason on the aid which a knowledge of the effects of food and exercise will be to training operations. But there is more gained than that which is acquired during the school days, and that is the continual incentive to study which the school life has fostered. Whenever at a loss books will be consulted, and those falling to give the desired information the pupil has more confidence in his own intellectual resources than in the man who has not had his mental faculties developed. There is a material difference in the training of race horses and trotters. The galloper requires to be in more perfect condition to perform satisfactorily, although the fast trotter is not far behind him in calling into play the full force of the muscles, and with equally great strain of the nerve power. The education of trotters, however, necessitates the consideration of other questions

than condition, the action has to be carefully guarded, and a wrong manner of progression overcome. Oftentimes this is the knottiest kind of a problem, trying the ingenuity as well as the patience of the trainer. This entails continual study, constant thought, and the man who excels will invariably be found the most intelligent. The intelligence may come from natural acuteness, though few will deny that the assistance of "book learning" in such trying positions.—California Spirit.

So-Called Sweeney.

The vulgar term sweeney is applied to a real or imaginary wasting of the muscles of the extremities, and mostly referred to as being located in the shoulder or about the croup. It is commonly regarded as a special evil, and all sorts of cruel practices and nostrums are resorted to for its cure. The cause or causes of a general negative result of the treatment is simply this, that sweeney, or more properly speaking, wasting or atrophy of the muscles of the horse's limb, is, in the plurality of cases, merely one of the results of chronic disease of some part of the limb, such as a painful corn, navicular disease, and contracted feet, or ringbone, spavin, &c. If a cure of these ailments is possible, the so-called sweeney will either gradually disappear in the course of time, or will yield to treatment; otherwise, the cure of sweeney will prove a failure. In young horses sweeney, or wasting of the muscles of the shoulder, is often a consequence of unsteady pulling with an ill-fitting collar. In such a case, relieve the animal from work, and apply, for some time, once or twice a day, a portion of equal parts of tincture of cantharides and oil of turpentine. The contents of the bottle should be shaken well, applying the same. Liberty out-doors, on pasture will be of additional benefit. Subsequently, give only light work in breast harness, or in a soft pad, padded, well fitting collar, until the animal be comes used to pulling.—National Live Stock Journal.

Individuality of the Horse.

One thing curious and interesting about the horse is its individuality. This is a characteristic common to all animals, undoubtedly to a greater or less degree, but surpassingly so, we think, in the case of the horse. How this characteristic varies in horses is well known by any one who has ever intelligently drawn a rein over a good roadster. The individuality of horses varies as much as that of men. Every one has a different mental as well as a physical make-up. Some horses seem to possess brains, to have some sense, are quick to understand and obey the least sign, motion or word of their master; others are not inaptly termed "lunk-heads," always awkward, lumbering about, difficult to teach and never "make anything." In a horseological sense. It may be true that these traits in a horse are sometimes due to the habits of his driver or owner, and that the horse itself may not be so much to blame for his ignorance, but however much he may be excused on this score, there is a surprising difference in these mental qualities of horses. Some men drive and use horses for years and yet never realize that they know anything, or that there is any more difference between them than there is between two men who handle horses a great deal, who buy and sell frequently, and who study their different characteristics, will tell you how wonderful horses are, how much more they know than some men, how much each one has to be driven and handled differently, and how much they will sometimes teach, even their driver. Between a nervous sensitive, intelligent horse and his considerate owner, how large a union of fellowship and sympathy exists. In the stable, on the road, if overtaken by an accident, the cool, sensible man is sure to have a quick sympathy for his faithful horse. He trusts his master as his master trusts him; if the master is quiet, the horse will be equally so, knowing everything is safe; if the master blusters, or becomes anxious, or exhibits fear, the horse knows it at once and becomes restive likewise. Oh, that men only knew that horses know much more than they give them credit for, and then they would use them more humanely, as they should than they do. Horses are not brutes, they are noble, intelligent, sensible creatures, the most useful animal servant which Divine Goodness has given to man.

About the Watering of Horses.

When a horse is thirsty, his system needs water. A part of a painful of water, when a horse is suffering with thirst, will be quite as grateful and refreshing to the palate of the dumb brute as a cooling draught of crystal water right from the mountain spring refreshes and invigorates the weary traveler. A horse needs much more water during a day and a night than most persons are wont to suppose. When a horse needs water, if he does not receive the needed supply, we have no idea of the intense suffering which the poor creature must endure. After a horse has been driven until he perspires profusely, there will be an imperative demand for water to supply the place of the liquid that has passed off through the pores of the skin; and after a horse has filled his stomach with dry feed, a little water is needed to promote digestion, especially when the animal did not receive a generous supply before he was fed. When the stomach and bowels need more water they will have it, if the supply must be taken out of the skin. But when the digestive organs must draw extensively on water that is secreted in the tissues of the flesh and muscles, we cannot compute the great injury that will follow such an unnatural way of obtaining a supply of water which is absolutely needed to promote healthful and complete digestion. The digestive organs cannot perform their functions without water any more than a fire can be made without wood or coal. As the stomach of the horse is exceedingly small when compared with the first stomach, or rumen, of meat cattle, we perceive the vast importance of supplying a little water, and often, rather than to permit the thirsty brute to swallow several gallons at one draught only once

or twice during twenty-four hours. During a period of more than fifty years past I have taken personal care of horses, have owned and reared horses, and have never had a sick horse or one injured or disabled. My rule is now, and ever has been, to water, feed and take good care of my horses, before I seek refreshments and comfort for myself. When horses are watered frequently, they will drink only a few quarts at each draught. This is infinitely better than to allow them to gulp down at one draught two or three pailfuls. It is better to let a horse drink at least a pailful before eating, than to drink copiously after his meal. A large quantity of water after feeding will often drive much of the feed from the stomach before it is half digested.—S. E. T. in the Evangelist.

Founder.

A disease that is far too common in horses, is caused most frequently by driving or working the animal till it is overheated, and more or less exhausted, and then allowing him to cool off suddenly without rubbing dry. A horse driven hard for several miles, and then hitched to a post in the open air in cold winter weather, and perhaps forgotten by the driver, who may be telling stories or smoking a cigar by a warm fire, the next morning, if not sooner, it is noticed that the animal has not eaten well, and can scarcely move from the stall. The lameness may be chiefly in one limb, or in more than one. Dr. Cressy, in his recent lecture before the Connecticut Board of Agriculture, said that any case of founder can be cured if taken within thirty hours of the attack.

The first thing to do is to place the horse's feet in tubs of warm water, and then blanket heavily, and get the animal thoroughly warm all over. The lameness is caused by a stagnation of the blood in the feet caused by being cooled too rapidly after exhausting labor. The warm water thins the blood, extends and softens the blood vessels, and favors increased circulation. In very bad cases, bleeding in the foot may be necessary, though ordinarily it may be dispensed with.

Knowing the cause of founder, it will be seen that it is much easier to prevent than to cure this disease after it becomes established. In the first place avoid very severe driving and over-exhaustion; but if abuse of this kind is unavoidable, see to it that the horse who has risked his life in the service of his master is not neglected at the end of his journey. Drive into a warm shed or barn free from cold draughts, and rub vigorously till the animal is dried off. Give warm water to drink, and cover with warm blankets. In short, treat the horse just as you would treat yourself under like circumstances.

Horse Notes.

The ten-year-old sister to Maud S. is called Rosella.

George Kitching, a noted Chicago horseman, died in that city last week of consumption.

Patchen, who was a starter in the race in which Bonesteeper dropped dead and whose record is 2:18½, is at Pittsburg in a critical condition from paralysis.

Racing is getting to be very popular in the Sandwich Islands. On July 4th there was a dash between two-year-olds, Garfield and Hancock, won by the former.

It is reported that the gray mare Kate McCull, by Blue Bull, that won the 2:40 race at Chicago, has been sold for \$10,000 to Julius Voetter of Pittsburg. Her record made at Chicago was 2:28½.

John Trout recently drove the bay gelding John H., record 2:20, and the bay mare Lady Martin, record 2:26, to the pole in 2:22½, and the latter with running mate in 2:16. John Trout had the honor of giving John H. his record of 2:20 in 1878.

Samuel A. Brown of Golden Stock Farm, Penwater, Mich., has sold to W. H. Wilson of Abdullah Park, Cynthia, Ky., the black mare Lady Tarpin, by Hays' Cottrell Morgan, dam Nonesech (dam of Kentucky Central, Kentuckian, etc.), by Brignoli, grand dam by Roebuck.

Two horses may be of about the same color, size, form and weight, but if they are not alike in action they would not make a desirable "match." Similarity of action is indeed a prime requisite with those who pair horses for city carriages. It should be none the less so with farm teams.

At Abdullah Park, Cynthia, Ky., Mr. W. H. Wilson is getting together a number of first-class mares to breed to Indianapolis. record 2:21. Among these are Belle Bess, first, record 2:20; Lady Tarpin, 2:23; Lady Monroe, 2:24½; Edna, 2:29½; Mollie, 2:27, and the dam and own sister to Monroe Chief, record 2:18½.

It is reported that Mark Danham, of Illinois, has two hundred French horses on the way to this country. Mr. D. is said to have made half a million of dollars in this business within quite a few years. He owns a large and valuable farm, has the finest barn in the west, and has erected a respectable palace for his family.

The trotting mare Fanny Witherspoon has been sold to W. R. Armstrong of Almont, Mich., for \$10,000. She was bred by Horace Witherspoon of Lawrenceburg, Ky., and was foaled in 1874, her sire being Almont, her dam Lizzie Witherspoon by the thoroughbred horse Gough Wagner by Old Wagner. Her record is 2:19¾, made August 5th at Buffalo. She had been timed in private, from the half mile pole to the wire 1:07¼.

Scorchies are common in horses, and are caused by standing in manure, by overwork, by traveling long in the mud, and not being properly cleaned at night, with the feet and legs dried and warmed. First thoroughly clean the feet with soap and warm water, and then wash with copperas water, or, after his feet are wiped dry, apply a salve made by mixing two ounces of gunpowder with lard, or of sulphur and lard, or a warm poultice of bran, and give him also tea of tamarack bark, or soak his oats in such tea.

There has always been some doubt as to whether or not trotting is one of the productive arts. It is scarcely to be doubted now that it is one of the destructive arts. Last week W. H. Vanderbilt used his special train in order to go to Chicago to see his mare Maud S. trot possibly in advance of the record. On his way home, sparks from the engine attached to this special set fire to a railroad freight shed at Chippewa, Ont., and the result was that about one-third of that historic village was destroyed. It is estimated that Maud S.'s "fastest two consecutive trials on record" will cost the village of Chippewa not far from \$20,000.—Clipper.

The quality, as well as the temperature of the water drunk by horses is of the greatest importance. A sudden change of water may often induce a severe attack of colic, and this is so well known to horsemen that when the valuable trotters and racers travel from place to place a supply of water to which they have been used is always carried with

them. To avoid any ill effects, it is better to mix a handful of oatmeal or bran in the strange water, and, if possible, to warm it a little. The temperature of springs and wells varies very much, and a difference of ten or fifteen degrees is quite frequent. This is quite sufficient to affect injuriously the condition of a horse, which is an animal that easily suffers from disturbance of the digestive organs.

The New York Sun says: The exhibition of great speed by Maud S., at Chicago, on Saturday, was yet a disappointment to some people, because her fast miles were made in 2:11½ and 2:11 minutes instead of 2:10½ and 2:10½, which latter time she had previously reached. The difference of a fourth of a second in a horse's speed may represent also the difference between the maddest excitement for thirty thousand spectators and a well-controlled satisfaction, or even a tinge of sorrow. This difference in time is practically inappreciable when thought of as time; still it can easily be understood when thought of as distance. There are 5,280 feet in a mile; there 131 seconds to a min., and 11 sec. Hence each second of the average speed of Maud S. in a 2:11 mile represents 40 feet and about 3½ inches. A fourth of this space is not only clearly comprehensible, but in a match of two horses would be a decided victory, with plenty to spare. If eye and hand were only able to work quickly enough smaller fractions of seconds might obviously be registered in horse-races, because even a sixteenth of a second with Maud S. must represent a distance of 2½ feet.

There is every indication that all parts of the civilized world are coming to an appreciation of the superiority of the American trotting horse above those of any other country for road work. England, Scotland, France and other European countries have been drawing upon us for breeding stock of this sort for several years past. Australia has recently made a beginning; Japan began the business several years ago; and we have now before us a letter from a subscriber in New Zealand asking the address of breeders, and a statement of prices at which well-bred trotting stallions and mares can be delivered on board steamers at San Francisco; and saying that if prices can be made satisfactory, he would like to take a large number yearly.

The trotting horse is peculiarly an American creation, and our breeders are destined, at no distant day, to find their largest and best paying customers in foreign countries, and this foreign demand will doubtless increase in proportion to the superiority of American road horses becomes more generally known.—Live Stock Journal.

COLTS INJURED BY HEATED MILK.—Farmers should remember this hot weather that when their brood mares are used upon the farm or road, so as to heat the blood, the colts should never be allowed to suck until the dam is fully cooled off. The colt should be permitted to fill himself before the mother is put in the harness, and if it is important that it should accompany the dam, it should be tied at her side, so that it will be unable to draw milk until liberated; for it is much better that it should go hungry a few hours than take food while in a fevered state. If the mare is to make a long distance on a hot day, and return at night, it is best to leave the colt at home, and draw the milk from the udder by hand once or twice during the day, and then upon returning allow the colt to fill himself as the milk is secreted. Colts injured by heated milk seldom recover from it for a year or two, and many times never. They become reduced in flesh, get lousy in the fall, and during the first winter of their existence, when they need health and strength as under any circumstances it is the most critical period of their growth, they have just about life enough to enable them to move, and the second summer—the proper time for development—is spent in the recuperation of lost vitality.

Short Horn Sales.

The great sale of the Hamiltons at Winchester on the 27th ult. was largely attended. Sixty-four head were sold for \$30,095 or an average of \$470. The different families of females sold as follows: Four Kirklevingtons sold for \$5,745, an average of over \$1,436. Two Loo Belle Georges made \$2,555, an average of \$1,277.50. Three Peach Blossoms made \$3,735, averaging \$1,245. The three Duchesses of Kingscote made \$2,585, an average of \$862. The Young Marys, ten in number, made \$3,915, or \$391.50 per head. Eighteen Josephines brought \$4,715, averaging nearly \$762. Forty-seven females made \$28,215, an average of \$600.35. Most of the stock was bought by Kentuckians.

On the 26th Messrs. Vanmeter & Hamilton sold near Winchester seventy-six animals for an aggregate of \$88,680, a general average of \$85; seventy-one females averaging \$815, and five bulls \$350. A telegraphic report of the sale states: "The prices clearly show that Rose of Sharon are growing in popularity; also that Young Marys maintain themselves next in rank. The Rose of Sharon disposed of find a wide distribution, and the spirited bidding showed that they were much wanted and by many. The fifteen Rose of Sharon included in the sale brought over \$20,000. Females of this family therein contained pressed well towards an averaging of \$1,600 per head, as such matters are usually computed."

Stock Notes.

The bull calf dropped by Jersey Belle of Seaton, the famous cow, just prior to her death from milk fever, is now owned by Mr. Charles L. Sharpless, the well-known Philadelphia stock raiser. The bull will equal any in the country in intrinsic value.

The superintendent of the cattle department of the St. Louis Fair Association, urgently requests exhibitors to send in their application at once for stalls required. The coming exhibit will be the most important ever held by the association, and the sooner application is made the better. Address Secretary G. O. Kalb, 718 Chestnut street, St. Louis, Mo.

E. C. Snuggs of the firm of Snuggs & Putnam, who show that cattle raising will pay in Texas, and who have just sold their entire outfit for \$110,000, emigrated from Mississippi to Brown county nine years ago, and for some time thereafter made sales at \$1 a hundred. He saved his money, put it into "something that could eat grass," and now he effects a sale of which his share is \$55,000, and still has 500 head left.

A Kentucky cow raised on the farm of Ernest Ellsworth of East Windsor Hill has a remarkable record. April 16th, 1877, she gave birth to twins, one male and one female; March 18th, 1878, she gave birth to triplets, two males and one female, making five calves in eleven months and three days; July 9th, 1879, she gave birth to twins, both males; October 7th, 1880, she gave birth to triplets, two males and one female, making ten calves in the three years five months and

twenty-one days. The calves have been of good size, healthy and handsome, and have been raised on the farm.

Gen. L. F. Ross, the well-known stock breeder of Avon, Fulton county, Ill., writes to E. A. Filley, superintendent of the cattle department of the St. Louis Fair Association, that he will be here at the next fair with a full herd of red Devon cattle. He will also bring a red polled Norfolk bull, and several of his best from the Devons. These are a new breed of red polled cattle, but of larger size and showing some of the Devon peculiarities. Gen. Ross says it is absurd for Americans to wait for Englishmen to make experiments, when they can make their own and produce new and useful home species.

Pittsburgh Stockman: Now that the annual struggle for red ribbons and first premiums is about to commence, some practical reflections concerning them may not be amiss. That the system of awards and competition ruling at our agricultural exhibitions is a good thing will perhaps not be disputed—that is, so far as it is fairly and honestly conducted—but should the premium be the great object at which the exhibitor of live stock aims is a question worth considering. The man who cares nothing for the credit of coming out foremost in a contest in the showing ring can hardly have efficient personal pride to be a successful breeder—but should not this distinction be a less prominent consideration with the exhibitor than it usually is? It strikes us that the main object of the breeder should be to bring his stock as prominently as possible before the public. In no place can this be done as well as at the fairs, where the very men desired to be reached generally congregate. Many a breeder can date his first sales to impressions made in the show-pen, and many a one unfortunate in the matter of red cards has found exhibiting highly profitable. The simple fact of one flock or herd receiving an award over another does not necessarily mean great superiority, and often means almost nothing. It is frequently the case that competition is so close that judges can hardly come to a decision at all, and if they do, even with the strictest honesty, it is very often no indication of anything more than that one of the number had to be selected, as all could not win. If the breeder can go before the public and lead his competitors in premiums, he is to be congratulated. But if he cannot do so it is no reason why he should remain at home. Come out to the fairs, breeders, and if you can fairly earn the ribbons do so; but come at any rate, and let the public see what you have.

The Shepherd.

Edited by R. M. Bell, of Brighton, Massachusetts, to whom all matter relating to this department should be addressed.

Harry McCullough, of Fayette, Howard county, Mo., had a fine lot of Atwood Merinos at their State shearing. He is a live, progressive breeder and thoroughly understands his business. On his farm, four miles from Fayette, he has something like a thousand head of Merino sheep and can supply buyers with some first-class bucks and ewes at fair prices.

Col. Robt. W. Scott, of Frankfort, Ky., writes to the California Farmer: I have continued to breed Angora goats with the greatest care, and I still find them my most profitable stock, even on our high priced lands, the "improved Kentucky" sheep not excepted; for although the wool of them is ready sale at two or three cents more than other best wools, the mohair brings readily double the price.

J. C. Gill, formerly a member of the State Grange Executive Committee of Missouri, is Secretary of the State Wool Growers' Association of that State and has on his ranch in Barton county about 3,000 sheep.

Why, yes! and he was raised here in Macoupin county, Illinois, on a big farm in the prairie, with 4,000 sheep on it. He was "our jun." then as now all the same. We take stock in him.

It is difficult to understand the reluctance exhibited by our farmers in the older States in devoting increased attention to sheep husbandry. It is a national disgrace that we should be forced to import large quantities of wool to supply American manufacturers. Again, England is ready to buy American mutton in large quantities, there is no reason why every hill farm in New England should not rear a flock of sheep. Among the many arguments in favor of devoting more land to sheep husbandry is the fact of a serious decline in that industry in Great Britain, opening up a still larger field in this direction to American industry.

Size of Fleece and Sheep.

W. S. T. Norway, Me., asks if it is true that weight of fleece, or in other words increase of wool, is obtained at any sacrifice in the size of body. Decidedly not. There is not a single case known where increase of body has not been attended by an increase of wool. The Merino sheep of to day which produces a seven pound fleece of wool is not only a larger sheep, but has a better constitution than those which, thirty years ago, did not produce more than two pounds of wool. A well-fed, fat sheep will have a fleece weighing two or three pounds more than a half-starved sheep; again, the fleece will be healthier, the staple longer and sounder and the wool be worth more per pound than the yield of inferior sheep. Again, a pound of wool from a well-fed sheep will make more yards of yarn and a stronger thread than a pound of wool from a poorly-fed sheep. Wool from wether sheep is always worth more than from ewes.—American Cultivator.

Sheep Notes.

In DeWitt county, Tex., sheep men are building sheds and providing hay for their sheep. Recent losses from severe cold spells have led them to take this wise course.

A firm of sheep growers in Texas have lately bought a 300,000 acre ranch occupying about 20 miles of frontage along the Rio Grande on which they intend to graze 200,000 sheep.

W. J. Long & Hudson have bought 400 head of sheep from Wm. Sackville, in Frio county, Texas, price paid \$2.35. They propose to move cattle from Bell county to Frio and run a sheep and cattle ranch.

Texas Live Stock Journal: We are informed by several of our most prominent sheep men that they will raise this season an average of 90 per cent. of lambs. This is certainly a fine crop and profitable increase, and speaks well for the sheep business in Texas.

To give our readers an idea how sheep sold in Illinois thirty-four years ago, we extract the following from the Chicago Prairie Farmer of August, 1847: "I have a flock of sheep between five and six hundred in number. The sheep are half and three-fourths Merino, and will be sold at \$1. per head. Apply to James Bull, Knox county, Ill."

The recent decision of the Treasury Department as to the duty on wool tops having been suspended, it is hoped that it will be entirely revoked, or will be so modified that the home interests will be protected. Manufacturers and dealers feel quite confident that some change will soon be made more favorable to the wool growing interests of the country, and these interests call loudly for encouragement at the hands of the government especially at this time when new life is being infused into it.

American sheep are steadily gaining a reputation abroad. At the late meeting of the National Wool Growers' Association at Philadelphia, two Australian fleeces and two from American sheep were secured for purposes of comparison. The persons in charge of the scoring had no knowledge of the nationality of the sheep from which the fleeces were shorn. After scoring they were appraised by competent and impartial judges. The American fleeces produced 8½ pounds of cleaned wool, while the Australian, when scored, weighed less than 4½. The Australian fleeces were valued at \$4.30, while the price set upon the American was \$8.12. A prominent sheep breeder of Melbourne learning the result visited several noted flocks of Merinos in Vermont and New York and satisfied himself of the superiority.

A correspondent of the Pacific Rural Press says: A great share of the sheep raised in Nebraska are a mixture of the Cotswold and Leicester, while further south, in Kansas, Texas and New Mexico are the Spanish Merino and Mexican. The latter are better adapted to a warm climate, produce finer wool, and are more valuable in every way. The climate of California is well adapted to a cross between the Spanish Merino and Mexicans. I should be much pleased if some one would speak more definitely than I am able in explanation of the fact that wool brings nearly 50 per cent. more in California than here, although it must be shipped some 2,000 miles further. The only causes which I am able to give for it are as follows: The wool of California is of a somewhat finer grade, can be bought in larger quantities and at a consequent less expense.

Pittsburgh Stockman: While cattle men of the plains were by no means discouraged by the results of last winter's severity, sheep men or that region seem to be rather disheartened. In occasional parts of Colorado and New Mexico cattle men lost heavily, but averaging the west throughout they came out well, and are in excellent spirits. Sheep ranchmen, on the other hand, were uniformly heavy losers, their average losses being estimated at 25 to 33½ per cent., and many of them are correspondingly dubious about the future of their business. One thing seems to have been overlooked by plainsmen handling sheep, or if not forgotten it has at least not been provided for; and that is that sheep imported from the States are less hardy than the native steers of the ranges, and cannot be reasonably expected to stand equally well the rigors of the western snow-storm and blizzard. To render sheep-ranching absolutely free from risk of such winters as the last, shelter should in some way be provided for extremes of weather, and food should be stored against emergencies. We believe such precautionary measures will yet be adopted, and when they are a great stride will have been made toward the time when the United States will grow enough wool for home consumption.

COL. COLMAN: Please send my paper to Coyville, Wilson county, Kas. I have established a ranch with about a thousand young half-blooded Merino sheep, built upon Cotswold. The ranch is located in the northwest corner of Wilson county, in the valley of the Verago with very fine range upon the hills. Corn in the valleys is looking very well. You will observe I have taken the RURAL WORLD for many years at Liberty, Clay county, Mo. B. W. MARSH.

The Pig Pen.

How to Feed Pigs.

The nice point in growing pigs is to keep them growing. This is easily accomplished for the first three or four weeks by feeding the sow bountifully upon nourishing slops; but the time comes very early in the life of the pig when it is impossible for the sow to supply nutriment for a large litter, as rapidly as they are assimilating the food, and if they have not in the meantime been taught to eat for themselves, there comes a period of retarded growth. I usually prepare for this providing a trough apart from the sow, to which the pigs can have access, and commence by giving them a little sweet milk, which they soon learn to drink greedily; this is gradually changed to skim-milk, and then to sour milk, butter-milk or whey, with crumbs of bread, scraps from the kitchen table, etc. As the pigs grow older, I feed corn meal cooked into a mush, and mixed with whey, skimmed milk, and other house slops, and finally soaked corn by which they are old enough to take kindly to grass and clover, and this with the soaked corn will keep them growing rapidly.

Do not depend too largely upon corn, but provide grass in abundance. A most excellent food for the purpose of increasing the flow of milk may be prepared by grinding corn and oats together, in about equal quantities by measure, and making a slop of the mixture. To this may be added oil meal with profit. Ground rye, barley or wheat, may be substituted for the corn or oats, and a mixture of all these grains will make an excellent diet; but don't forget the grass. If you are so situated that you can't give your sows access to a good pasture, cut some grass—clover is the best—and give it to them every day. Ground peas make an excellent food. Don't depend upon any one thing, but use a variety.—National Live Stock Journal.

Dr. Pierce's Extract of Smart-Weed cures colic, cramp in stomach, diarrhea, dysentery (bloody-flux), and kindred affections. Sold by druggists.

Farmer John.

**Who long to be idle—for idle hands
Are the Devil's chosen tools."**

Letter from Miss Ted.

Letter from Miss Ted.

Think what must have been the mental capacity of ordinary Grecian women in that day! When Plato told the ladies of Athens they were ruining their complexion by the use of cosmetics and endangering their lovers' lives by employing pins about their persons they did not know what he meant.

Letter from Nina.

much work. And I have quite changed my mind on the milking question which we discussed some time ago. I now think it quite proper for a man to do the milking, though, if a woman chooses to sit on the fence and watch him during the operation, I see no objection whatever!

Ravelings.

sometimes to read the silly, whimsical homilies offered by these model reformers who would purify the world by a word of command—since to them the ordinary worldly indulgences constitute the unpardonable sin. Human nature is the same now as three thousand years ago and the follies and vices of

Letter from Mutato Nomine.

WY, Kan., July 27th.

Bro. Gardner on Sympathy.

A fund law 'nuff to pay for de coffins.
We am fust horrified at a murder, an'
den turn aroun' an' weep ober de murder-
der. We sen' men to prison to pun-
ish em, an' de judge an' jury turn aroun'
an' sign a petition for pardon. We
make laws one day an' seek to upso't
'em de nex'." De man who commits a
great crime to-day am spic'ed out as
a criminal to-morrow. He sleap' on 't
one night we call him a lunatic an' his
'excuses fur him. Public sympathy has
abolished de gallus, an' yet it will suffer
women an' children to starve an' freeze
to death. Men rob our banks an' am
pursued, not to be punished, but to be
given a commission on deir stealings.
Public sympathy, as I see it, am a sort
o' jar filled wid bnttermilk, bones, hash,
buttons, scrap-iron, beer-slops an' wilted
bouquets. It is too soft an' any of
de laws we make to be penalty en-
forced. If I meet wid misfortune I want
to borry instead of beg. If I die I want
no eulogies on my virtues or criticisms
on my failins."—Free Press.

UNDER A FLY-WHEEL.

BY HENRY CLEMENS PEARSON.

Instantly a dozen mocking voices from the sides of the pit flung back the cry into his very ears. But the wheel caught the cry, and whirled it away, up into the engine-room, in distorted echoes. He called again, and the sound seemed less terrible. The little girl tried to get up, but he held her in the white dress and soothed her the best he could.

A moment later he distinctly heard foot-prints in the engine-room, then he felt that someone was looking into the pit, and then the clattering of the piston in the empty cylinder showed that the engine was soon to stop.

Less swiftly, and at last slowly and more slowly, whirled Tom's massive jailer; fainter and fainter came the clatter of the piston, until both ceased. Then the engineer, with a groan of perspiration on his white forehead, swung himself between the harmless spokes of the fly-wheel and got down close to the two prisoners.

"Is she hurt, Tom?" he gasped.

"No, sir," said Tom faintly. "If you'd only stop the fly-wheel, I'd lift her out."

Keeping House.

Facts About Editors.

Health Column.

OATMEAL PORRIDGE

in water in the saucepan, we take a small tea-cupful of meal (two or three ounces) for each pint of water in the saucepan. Draw the saucepan of boiling water off the fire and then sift it the meal through the fingers. The meal must be sifted into the water so as to be evenly spread over the surface, and to sink free from lumps. Then push the saucepan fully on the fire and boil briskly for a minute or two, so as to thoroughly mix the meal up with the water before it begins to thicken. Next boil slowly for three or four quarters of an hour, according to the coarseness of the meal. Care must be taken that the porridge is just kept, on the move, and it must be stirred, if necessary, so as not to burn, and not to get lumpy. Smoke and soot must be carefully kept from contaminating it. The porridge is now

Health Notes.

charged with carbonic acid. It is then to be drunk, after cooling. When the bottles are opened, the contents are the most furious of all corked stuff, and will be hardly safe to attempt it in the White House, if it contains any work of art. The bottle must be turned neck down into a big pitcher, the top covered with a napkin, and the stopper loosened by passing the bare hand into the pitcher. Otherwise it will be all over the clothing, wall paper and other objects of interest. The drink itself is a palatable acid, covered with a fine froth, like beaten egg. It is a kind of champagne milk, and is very favorable to persons who need an acid but nutritious beverage.

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